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Recognizing the shortage of prepared nursing personnel in both service and educational institutions, the Advisory Committee on Nursing Education made a questionnaire survey of all state approved schools of nursing in Massachusetts to aid in planning for nursing education within the state's public educational institutions. Returns from all six baccalaureate programs, from seven of the eight degree programs, from 37 of the 43 diploma programs, and from 28 of the 38 practical nursing programs are analyzed and the following recommendations are made to: (1) develop a system of nursing education, (2) expand the graduate preparation in nursing, (3) add more baccalaureate programs, (4) assist "R.N. Students" in baccalaureate programs, (5) increase nursing faculties, (6) delay new programs at less than baccalaureate level, (7) improve recruitment, applications and admission procedures, (8) use a community plan for nursing education, and (9) develop new policies and procedures between the community and state colleges. Questionnaires used and the number and locations of approved schools of nursing in the state are included. (MM)

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EDUCATIONAL HORIZONS for Nursing in Massachusetts

A Report on Nursing Education in the Commonwealth of Massachusetts

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Volume 3 of the Board of Higher Education Series

Educational Horizons for NURSING IN MASSACHUSETTS

MARY F. MALONE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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in the Commonwealth of Massachusetts
with Recommendations for the Future
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Nursing Education in Massachusetts

INTRODUCTION

The magnitude and nature of the shortage of nursing care in this country is clearly stated and documented by the consultant group on nursing in its report "Toward Quality in Nursing." They stated:

> "A severe shortage of nurses exists in the United States today. It is both quantitative and qualitative. Quantitatively, the shortage makes it impossible to supply hospitals and other health facilities and organizations with sufficient numbers of adequately prepared nurses. Qualitatively, it impairs the effectiveness of nursing care.
>
> Although the number of nurses in practice has increased substantially, demands for nursing service have increased even faster. Rising rates of hospitalization, growth in public and voluntary health agencies, the rapid advance of medical science, and increased employment of nurses in doctors' offices have so expanded the demand for nursing services that the shortage has become a critical national problem. Practical nurses and auxiliary nursing personnel have been used increasingly to supplement or take the place of professional nurses."

They go on to say further that,

> ". . . this growth in the demand for health care is reflected in the rising number of workers in the health occupations. In the past 50 years the Nation's population has doubled, but the number of health workers has quadrupled, from 500,000 to more than two million. But even this large growth has not been great enough to keep pace with the need. Today we are going through the most rapid and critical social changes with respect to health and health services that our society has ever seen.
>
> Medical science can now achieve more than was possible ever before. But the application of modern science requires new knowledge and skills on the part of practitioners in the health field and the ability to use new and complex instruments and to perform critical procedures skillfully. Modern health care demands the planned participation of patients towards their own recovery — witness early ambulation and the patients' role in rehabilitation. If modern medical care is to be effective, nurses must know much more and be able to do much more than ever before."[1]

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[1] *Toward Quality in Nursing Needs and Goals.* **Report of the Surgeon General's Consultant Group on Nursing. U. S. Department of Health Education, and Welfare, Public Health Service, February, 1963, P. 3.**

If this group were to prepare a similar document in 1968, there would be no need to rewrite this section of the report. The situation remains basically unchanged. On the basis of their analysis of the problems they indicate that every service and educational institution has pressing shortages of prepared nursing personnel. At the same time, it is clear that the dearth of individuals prepared to assume teaching and other leadership positions is viewed as the most critical problem, and thus deserving of the highest priority in the minds and pocketbooks of those responsible for the planning and implementation of measures to alleviate the current situation. Educational facilities cannot be expanded unless faculty is available.

This group projected the need in 1970 to be 850,000 professional nurses, with 300,000 of this number prepared at least at the baccalaureate level (35%). In addition, they projected the need for practical or vocational nurses to be about 350,000.

At the same time, recognizing the realities of the current situation, they indicated that the realistic goal for 1970 would be 680,000 professional nurses with 120,000 holding an academic degree. The reduction in total number is accompanied by a reduction in the ratio of professional nurses with degrees to those without a degree (35% to 17%). The goal of 350,000 practical nurses seemed achievable within the stated time period.

Some of the reasons for reducing the number of professional nurses available by 1970 are reported to be: (1) not enough capable young people are being recruited to meet the demand; (2) too few college bound students are entering the nursing field; (3) more nursing schools are needed within colleges and universities; (4) the continuing lag in the social and economic status of nurses discourages people from entering the field and remaining active in it.[2]

At the time of the report (1962) the most recent data (1957) indicated that the average ratio of employed nurses to population was 271 per 100,000. The goal set for 680,000 nurses by 1970 would increase this ratio to 317 per 100,000 population. In 1957 the ratio of professional nurses to 100,000 population in Massachusetts was 324.[3] At this time there were 11 states with ratios higher than Massachusetts and 14 states with ratios higher than the mean ratio projected for 1970.[4] By 1962 the mean ratio had increased to 298 nurses per 100,000 population. The ratio in Massachusetts was now 514 employed nurses per 100,000 population with only one area, the District of Columbia, maintaining a higher ratio.[5] While Massachusetts is second in ratio of employed nurses to population it also has the lowest percentage (51.2%) of its nursing population actively employed.[6]

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[2] *Ibid.*, P. 5.

[3] Surgeon General's Report, P. 59.

[4] Surgeon General's Report, Pp. 59 and 60.

[5] *Facts About Nursing*, American Nurses Association, New York, 1967, P. 13.

It is difficult to explain the increase from 324 employed nurses to 100,000 population in 1957 to 514 employed nurses to 100,000 population in 1962. During this period there was no significant increase in admissions or graduations for schools of nursing nor was there a decrease in the population in Massachusetts. It is possible that the data collection and processing procedures changed during these two periods and until other evidence is presented this seems to be the more valid explanation.

It would be expected that the achievement of this very high ratio, far exceeding the national average, would result in the elimination of the nursing shortage as a serious problem in this state. We are, however, experiencing a different situation. If there has been any change it is toward increased public concern regarding nursing in Massachusetts. This is accompanied by increased involvement of the public's elected representatives in the search for reasons underlying the problem and alternative routes for solution. It is well to bear in mind that Massachusetts is not the only state with an above average ratio which still faces the problem of quantity and quality of the nursing care available to its citizens.

The most recent study of health manpower pointed to the need for 900,000 active professional nurses by 1970.[7] This, coupled with the knowledge that a considerably higher ratio than the average does not begin to effectively alleviate the problem, points to the difficulty in assessing needs and setting goals at this time. It is now apparent that projections for future manpower needs of this country must be coupled with a re-examination of our health delivery system and the possible widespread under-utilization of talent. To use our current models of care as the standard to be achieved is misleading. Such an orientation in Massachusetts would result in the maintenance of the current situation. To take such a course would be to deny all evidence coming from the recipients of care as well as those responsible for its delivery.

Therefore, as we review the information related to the current situation in nursing education in Massachusetts with an eye to planning for the future, it might be both helpful and prudent to accept the rather unsettling fact that we do not know the exact present need and that we have no procedures which will give us reliable predictions regarding the future need. However, an oversupply of nurses is a most unlikely possibility. Once these assumptions have been accepted, it is clear that our first task is to try to plan for a system of nursing education which will provide us with the talent to fill currently available positions in service and education. At the same time it must provide the resources and structure for the examination of related issues such as the standard of care to be achieved, more effective health care delivery systems and proper utilization of talent.

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[6] *Ibid.*, P. 14.

[7] *Report of the National Advisory Commission on Health Manpower*, Vol. 1, Washington, D. C., 1967, P. 22.

The involvement of the public, its elected representatives and educational groups with nursing organizations is long overdue and most welcome. Information regarding the current situation in nursing education in Massachusetts is a prerequisite to cooperative discussion by these diversified groups. Also this information must be considered in light of the past and the projected plans for the future of nursing education in the state. In addition this information must be related to the current national scene and trends in nursing education throughout the country to assure the broad and objective perpective needed for effective planning.

The Board of Higher Education and the Advisory Committee on Nursing Education recognized the importance of such a perspective in planning for nursing education within the public educational institutions in Massachusetts. For this reason, the Study of Higher Education Nursing Needs in Massachusetts was undertaken. The Board and the Advisory Committee believe that their responsibility exceeds the mere presentation of facts; thus, this report includes evaluation of the data and recommendations for action.

The intent is not to preclude evaluation by others. On the contrary it is hoped that it will stimulate increased discussion and the generation of new suggestions.

METHODOLOGY

All the data were collected by mailed questionnaires with the exception of information regarding graduate education which was obtained by interview.

Questionnaires were sent to all state approved schools of nursing in Massachusetts. Returns were received from all six baccalaureate programs; from seven of the eight associate degree programs; from thirty-seven of the forty-three diploma programs and from twenty-eight of the thirty-seven practical nursing programs. Not all returned questionnaires were complete which accounts for the different numbers of schools contributing information on various questions.

The questionnaires which were sent to the associate, diploma and practical nursing schools were constructed by Mrs. Marita Tribou who was the interim director of the study during July and August 1967. The questionnaire which was sent to the baccalaureate programs was constructed by Mary Malone who assumed the directorship of the study in September, 1967. Analysis of all the data and the preparation of the final report have been the responsibility of the current director.

PART I

Presentation of Data

Nursing Education in Massachusetts is comprised of a multitude of interrelated variables which must be considered in any realistic planning endeavor. Unfortunately time did not permit attention to all of these but information was collected on the following areas: (1) admissions, (2) graduations, (3) attrition rate, (4) plans of graduates, (5) faculty, (6) clinical facilities, (7) different types of programs and (8) nature of students entering different groups. These data are presented in this section.

ADMISSIONS

Examination of Tables 1 and 2 quickly reveals the current situation with regard to admissions to all types of nursing programs during the six year period, 1962–1967. When figures for 1967 are compared with those for 1962 we see that this period has been characterized by an increase in admissions to baccalaureate, associate and practical nursing programs and a slight decrease in admissions to the diploma programs. By 1967 an additional 259 students were admitted into professional nursing programs, and an additional 500 students admitted to practical nursing schools.

The most consistent increase has occurred within the associate degree programs, with less stable shifts in the other programs. Admissions to baccalaureate programs increased yearly from 1962 to 1966 but fell off slightly in 1967. The same pattern was evident for admissions to practical nursing schools. The picture for diploma schools indicates more fluctuation. From 1962 to 1964 admissions increased, followed by a decrease in 1965 and 1966 and a slight increase in 1967.

Change in the number of students admitted was accompanied by change in the number of schools of nursing. Baccalaureate programs were the only exception, having maintained the same number from 1962–1967 although they expanded their admissions.

It should be noted that while the number of baccalaureate programs remained constant during this period the composition of this group changed. The Massachusetts General Hospital-Radcliffe College program was discontinued in 1965. In September 1966 the first students were admitted to the baccalaureate program at Northeastern University. The greater increase in numbers of schools occurred within the associate and practical nursing pro-

TABLE 1

ADMISSIONS TO PROFESSIONAL NURSING SCHOOLS*

	1962		*1963*		*1964*		*1965*		*1966*		*1967*	
	No. of Schs.	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*
Baccalaureate...........	6	306	6	349	6	375	6	397	6**	561	6	532
Associate..............	2	38	3	57	5	201	5	286	8	325	8	379
Diploma................	49	2,231	49	2,242	49	2,339	47	2,238	45	1,869	43	1,923
Total..................	57	2,575	58	2,648	60	2,915	58	2,921	59	2,755	57	2,834

*In this report the term professional is used in conformity with its usage in *Facts About Nursing, Report of the Surgeon General's Consultant Group on Nursing — Toward Quality in Nursing* and *Report of the National Advisory Commission on Health Manpower.*

**The Massachusetts General Hospital — Racdliffe College program was discontinued in 1965. The program at Northeastern University opened in 1966.

TABLE 2

ADMISSIONS TO PRACTICAL NURSING SCHOOLS

	1962		*1963*		*1964*		*1965*		*1966*		*1967*	
	No. of Schs.	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*	*No. of Schs.*	*No. of Adms.*
Total..................	26	593	30	686	31	1,315	35	1,394	37	1,415	37	1,093

grams. The associate program added six schools during this period, increasing in number from 2 to 8. Eleven new schools offering practical nursing programs were added, increasing the number from 26 to 37. During the same period, diploma schools of nursing decreased from 49 to 43. These shifts result in the same number of professional nursing programs in 1967 as there were in 1962. Thus, the same number of schools are admitting more students.

At the same time that this overall increase in the number of admissions is occurring, the data collected regarding the relationship between the 1967 admissions and the maximum number of possible admissions indicate a discrepancy of 435, which is distributed in the following manner (Table 3).

TABLE 3

DISCREPANCY BETWEEN MAXIMUM AND ACTUAL ADMISSIONS TO PROFESSIONAL NURSING SCHOOLS*

	Baccalaureate N = 6 (100%)	Associate N = 7 (87%)	Diploma N = 31 (72%)	Total
Maximum Admissions	560	400	1,812	2,772
Actual Admissions	515	304	1,518	2,337
Discrepancy	45	96	294	435

* Similar data was not obtained from practical nursing schools.

One school contributed heavily to the discrepancy within the baccalaureate programs, accounting for 39 of the total number. This program is relatively new and offers a new 5 year cooperative plan curriculum. The program located within a state college and one in the state university each admitted only one less student than the maximum number would permit.

Forty-one of the 96 discrepancies in the associate programs were contributed by a state community college which admitted its first nursing students in 1966. It would not be expected to reach its maximum at this early date.

It is important not only to consider the actual number of students admitted to the different types of nursing schools, but also the relationship between them. Tables 4 and 5 show the percentage of *total* admissions per year contributed by each type of program.

TABLE 4

PERCENTAGE OF ADMISSIONS TO EACH TYPE OF NURSING PROGRAM

	1962	*1963*	*1964*	*1965*	*1966*	*1967*
Baccalaureate	9.6	10.5	8.8	9.2	13.4	13.5
Associate	1.2	1.7	4.7	6.6	7.8	9.6
Diploma	70.5	67.1	55.4	51.7	44.9	40.9
Practical	18.7	20.7	31.1	32.5	33.9	36.0

TABLE 5

PERCENTAGE OF ADMISSIONS TO EACH TYPE OF PROFESSIONAL NURSING PROGRAM

	1962	*1963*	*1964*	*1965*	*1966*	*1967*
Baccalaureate	11.8	13.2	12.1	13.7	20.4	18.7
Associate	1.5	2.2	6.9	9.7	11.8	13.4
Diploma	86.7	84.6	81.0	76.6	67.8	67.9

It is of interest to compare the data presented in these tables with those from the country as a whole. The 1965 data on admissions are the latest available for such a comparison.[8] These are presented with Massachusetts data in Tables 6 and 7.

TABLE 6

COMPARISON OF 1965 ADMISSIONS TO ALL SCHOOLS OF NURSING IN THE UNITED STATES AND MASSACHUSETTS

	UNITED STATES		MASSACHUSETTS		
	Number of Adms.	*Percent*	*Number of Adms.*	*Percent*	*Percent of Difference*
Baccalaureate	13,159	13.2	397	9.2	− 4.0
Associate	8,638	8.7	286	6.6	− 2.1
Diploma	38,904	39.2	2,238	51.7	+12.5
Practical	38,755	38.9	1,394	32.5	− 6.4
Total	99,456	100.0	4,315	100.0	

---

[8] *Facts About Nursing, op. cit.*, Pp. 95, 180.

Table 7

COMPARISON OF 1965 ADMISSIONS TO PROFESSIONAL SCHOOLS OF NURSING IN THE UNITED STATES AND MASSACHUSETTS

	United States		Massachusetts		
	Number of Adms.	*Percent*	*Number of Adms.*	*Percent*	*Percent of Difference*
Baccalaureate	13,159	21.7	397	13.7	− 8.0
Associate	8,638	14.2	286	9.7	− 4.5
Diploma	38,904	64.1	2,238	76.6	+12.5
Total	60,701	100.0	2,921	100.0	

We find that in Massachusetts admissions to diploma schools account for a higher percentage of total admissions than is the case for the country as a whole. Conversely admissions to each of the other three types of programs account for a lower percentage in Massachusetts than in the rest of the country.

Similar differences appear when admissions to professional schools only are considered. Once again, diploma school admissions in Massachusetts account for a higher percentage of total admissions than in the country as a whole. The percentage of admissions to the baccalaureate and the associate programs are both lower than the national average, with baccalaureate programs differing the most.

GRADUATIONS

Graduation figures are very important to our understanding of the nursing situation in Massachusetts. They not only provide data on the actual number of nurses added to the employment pool yearly, but also on their level of preparation. Both have obvious implications for the type of positions most likely to be filled.

Once again we will consider the period from 1962–1967. Tables 8 and 9 contain information on the number of graduates from each type of program during this period.

Table 8

GRADUATIONS FROM PROFESSIONAL NURSING SCHOOLS

	1962		*1963*		*1964*		*1965*		*1966*		*1967*		
	No. of Schs.	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*Total*
Baccalaureate....	6	170	6	162	6	201	6	235	6	233	6	231	1,232
Associate........	2	26	3	23	5	27	5	37	8	61	8	145	319
Diploma.........	49	1,535	49	1,645	49	1,598	47	1,677	45	1,601	43	1,732	9,788
Total	57	1,731	58	1,830	60	1,826	58	1,949	59	1,895	57	2,108	11,339

Table 9

GRADUATIONS FROM PRACTICAL NURSING SCHOOLS

	1962		*1963*		*1964*		*1965*		*1966*		*1967*		
	No. of Schs.	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*No. of Schs.*	*No. of Grads.*	*Total*
Total.........	26	575	30	707	31	806	35	912	37	1,068	37	976	5,044

Comparison of the 1962 and 1967 figures reveals a pattern somewhat similar to the one noted in reviewing the data on admissions. There is a slight increase in the total number of graduates with the largest and most consistent increase in the graduations from practical nursing schools. However, when the data for the professional nursing schools are reviewed the picture contrasts markedly with what we saw regarding the trend in admissions. The diploma schools were the only ones showing a decrease in admissions when the 1962 and 1967 figures were compared. We can see from Table 8 that the greater increase in graduations has occurred within the diploma schools. The associate degree programs have experienced the next largest increase with the baccalaureate programs having the smallest increase of all types of nursing programs.

During the period 1962–1967 16,383 individuals graduated from the schools of nursing in Massachusetts. Of these 15,151 or 92.5% have been prepared at less than the baccalaureate level. Of the 16,383 graduates, 11,339 completed programs in professional nursing with 10,107 or 89% of this number prepared at less than baccalaureate level. Thus, 89% of the professional nurse graduates have been prepared to assume general staff positions in hospitals, industry, physicians' offices, community health agencies or private duty. The

TABLE 10

PERCENTAGE OF GRADUATIONS FROM EACH TYPE OF NURSING PROGRAM

	1962	*1963*	*1964*	*1965*	*1966*	*1967*
Baccalaureate	7.4	6.4	7.6	8.2	7.9	7.5
Associate	1.1	.9	1.0	1.3	2.1	4.7
Diploma	66.6	64.9	60.8	58.6	53.9	56.2
Practical	24.9	27.8	30.6	31.9	36.1	31.6

TABLE 11

PERCENTAGE OF GRADUATIONS FROM EACH TYPE OF PROFESSIONAL NURSING PROGRAM

	1962	*1963*	*1964*	*1965*	*1966*	*1967*
Baccalaureate	9.8	8.8	11.0	12.0	12.3	11.0
Associate	1.5	1.2	1.5	1.9	3.2	6.9
Diploma	88.7	90.0	87.5	86.1	84.5	82.1

remaining 11% of the professional nurse graduates or 7.5% of the graduates of all types of nursing programs have the basic educational preparation for the graduate study required for faculty positions in junior and senior colleges, for administrative positions in hospitals and community health agencies and for research. In Tables 12 and 13 data regarding graduations in Massachusetts are compared with those in the total country. The 1965–1966 graduates are the latest group for whom these data are available.

TABLE 12

COMPARISON OF 1965–1966 GRADUATIONS FROM ALL SCHOOLS OF NURSING IN THE UNITED STATES AND MASSACHUSETTS[9]

	UNITED STATES		MASSACHUSETTS		
	Number of Graduates	*Percent*	*Number of Graduates*	*Percent*	*Percent of Difference*
Baccalaureate	5,498	9.0	233	7.9	− 1.1
Associate	3,349	5.5	61	2.1	− 3.4
Diploma	26,278	43.3	1,601	53.9	+10.6
Practical	25,688	42.2	1,068	36.1	− 6.1
Total	60,813	100.0	2,963	100.0	

TABLE 13

COMPARISON OF 1965–1966 GRADUATIONS FROM PROFESSIONAL SCHOOLS OF NURSING IN THE UNITED STATES AND MASSACHUSETTS[10]

	UNITED STATES		MASSACHUSETTS		
	Number of Graduates	*Percent*	*Number of Graduates*	*Percent*	*Percent of Difference*
Baccalaureate	5,498	15.7	233	12.3	− 3.4
Associate	3,349	9.5	61	3.2	− 6.3
Diploma	26,278	74.8	1,601	84.5	+ 9.7
Total	35,125	100.0	1,895	100.0	

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[9] *Facts About Nursing*, 1967, Pp. 99, 180.

[10] *Ibid.*, p. 99.

Again, as in the case of the comparison on admissions data, the differences between Massachusetts and the United States are similar. Graduates from baccalaureate, associate and practical nursing programs contribute a lower percentage to the total number of graduates in Massachusetts than is true for the United States. A higher percentage of the total graduates in Massachusetts is contributed by diploma school graduates.

When graduations from professional nursing schools only are considered a similar pattern emerges. In Massachusetts, graduates of baccalaureate and associate degree programs contribute less to the total number of graduates than is the case for the United States. Diploma school graduates comprise a larger percentage of the total in Massachusetts than in the country as a whole.

We have seen that the composition of the student population in the schools of nursing in Massachusetts differs from that in schools of nursing in the United States. In Massachusetts there are fewer admissions to and graduations from baccalaureate, associate and practical nursing programs and more admissions to and graduations from diploma programs. Examination of the data in Tables 14 and 15 points to a very simple explanation of these differences — Massachusetts has a lower percentage of baccalaureate, associate and practical nursing schools and a higher percentage of diploma schools of nursing than does the country as a whole.

TABLE 14

COMPARISON OF DISTRIBUTION OF TYPES OF NURSING PROGRAMS IN THE UNITED STATES AND MASSACHUSETTS[11]

	UNITED STATES		MASSACHUSETTS	
	Number of Schools	*Percent*	*Number of Schools*	*Percent*
Baccalaureate	210	9.1	6	6.2
Associate	218	9.4	8	8.3
Diploma	797	34.6	45	47.0
Practical	1,081	46.9	37	38.5
Total	2,306	100.0	96	100.0

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[11] *Ibid.*, Pp. 115, 117.

TABLE 15

COMPARISON OF DISTRIBUTION OF PROFESSIONAL NURSING PROGRAMS IN THE UNITED STATES AND MASSACHUSETTS[12]

	UNITED STATES		MASSACHUSETTS	
	Number of Schools	*Percent*	*Number of Schools*	*Percent*
Baccalaureate	210	17.1	6	10.2
Associate	218	17.8	8	13.6
Diploma	797	65.1	45	76.2
Total	1,225	100.0	59	100.0

ATTRITION

"Dropouts" are a concern to educators in all schools of nursing. The problem is not as serious for the baccalaureate or the associate programs since the transfer system within the college and from another college does permit new students to fill vacated positions. This is generally not possible in the other programs; once a student leaves the program there is little opportunity to replace her. In a field like nursing, where the majority of students are educated outside the junior and senior colleges and universities, attrition becomes a rather critical issue.

Admission and graduation data for the period 1962–1967 were examined to determine attrition rate for each type of nursing program in Massachusetts. It was possible to collect such information on baccalaureate students admitted in 1962 who graduated in 1966 and those admitted in 1963 who graduated in 1967. The attrition rate for the 1966 class was 23.9%, and for the 1967 class 33.8% for an average of 28.8%.

The attrition rate for associate degree programs could be calculated on only two classes. This included students admitted in 1962 who graduated in 1964 and those admitted in 1963 who graduated in 1965. The group entering in 1964 includes students in the three year associate degree program but the available data did not permit separation of these students. Thus any comparison between the 1964 admissions and the 1966 graduations would yield an artificially high attrition rate. The 1964 graduating class had an attrition rate of 28.9% and the 1965 graduating class an attrition rate of 35.1% for an average of 32%. It is obvious that the possibility of transfer students filling open positions in baccalaureate and associate programs is no real source of comfort.

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[12] *Ibid.*, P. 115.

It was possible to obtain the attrition rate for three classes graduating from diploma schools of nursing — the classes of 1965, 1966 and 1967. The rate for the 1965 class was 24.8%; for the 1966 class, 28.6%; and for the 1967 class, 25.9%. This yields an average attrition rate of 26.4%.

Unfortunately, due to the variation in the length of the practical nursing schools' programs, the attrition rate could not be determined on the basis of the available data presented in Tables 2 and 9.

In order to broaden our perspective on this problem comparisons have been made between the Massachusetts data and that from the United States. The time period represented in the United States data differs from the time period used in collecting Massachusetts data. However, on the basis of informal conversation with nursing educators who indicated that the attrition rate is relatively stable, such a comparison was made. These data are presented in Table 16.

TABLE 16

COMPARISON OF ATTRITION RATES IN PROFESSIONAL NURSING SCHOOLS IN THE UNITED STATES AND MASSACHUSETTS[13]

	United States	*Massachusetts*
Baccalaureate	40.9%	28.8%
Associate	42.2%	32.0%
Diploma	28.8%	26.4%
Overall Average	37.3%	29.1%

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[13] *Ibid.*, P. 106.

The attrition rate in Massachusetts is consistently lower than in the country as a whole, with the greatest difference existing between the baccalaureate programs. In spite of this very positive result it is still a point of concern since approximately 1/3 of the students who enter schools of nursing do not complete the program.

PERFORMANCE ON LICENSING EXAMINATION

Graduates of all professional nursing programs in the United States take the same licensing examination which is administered by the National League for Nursing Evaluation Service. This permits comparison across states for scores achieved on the total test and on each of the five test areas.

In 1964 and 1965 the groups in Massachusetts who took this test scored below the national mean in each of the five test areas and thus below the mean for the total test. When the mean standard scores were ranked, Massachusetts placed 27th in the medical nursing test area; 36th in the surgical nursing test area; 41st in the pediatric nursing test; 44th in the obstetrical nursing test and 47th in the psychiatric nursing test.[14] In 1967, 75.8% of the graduates of Massachusetts schools who took the licensing examination achieved passing scores, while 90.7% of the graduates of out of state schools achieved passing scores.[15]

Graduates of all practical nursing programs in the United States take a standard licensing examination which differs from that taken by graduates of professional nursing schools. This is also administered by the National League for Nursing Evaluation Service. In 1965 the standard mean score of those taking the examination in Massachusetts was below the national standard mean score. Massachusetts ranked 40th out of the 50 United States jurisdictions.[16]

1967 ENTERING CLASS

In order to obtain the most current information regarding the demand for a nursing career, each school was asked to indicate the number of applicants, the number of these who were rejected and the number who withdrew following acceptance. The data are found in Table 17.

It is well known that the number of applications is not an accurate picture of the number of individuals who are sufficiently interested in a nursing career

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[14] *Annual Report*, Commonwealth of Massachusetts Board of Registration in Nursing, 1966, P. 4.

[15] *Ibid.*, P. 4.

[16] *Ibid.*, P. 5.

Table 17

APPLICATIONS TO SCHOOLS OF NURSING

	Baccalaureate N = 5	Associate N = 7	Diploma N = 31	Practical N = 28	Total
Applications	2,289	922	4,765	2,735	10,711
Rejections	975	287	1,648	1,034	3,944
	(37%)	(31%)	(35%)	(38%)	(37%)
Withdrawal After Acceptance	426	135	903	187	1,651
	(19%)	(15%)	(19%)	(7%)	(15%)

to make plans to enroll in such a program since students are encouraged to apply to at least three schools. In addition it is not uncommon for an individual to apply to schools offering different types of nursing programs. The number of applications, therefore, is a highly inflated figure of the actual number of individuals who have applied to nursing schools. The withdrawals after acceptance is a partial reflection of this. This figure represents those who have been accepted at more than one school and who, after making their choices, notify the other schools of their intention not to enroll.

The number of applicants rejected is an equally confusing figure because not all those rejected by one school were rejected by every school to which they applied. Again, this probably is an inflated picture of the actual number of applicants who were rejected.

Also, it should be noted that not all schools of nursing are included. Whether the schools not responding to the questions differ from those which did respond is unknown, except in the case of the one baccalaureate not included. No response was possible since the students apply to the college rather than to a particular department within the college and the major field of interest is not selected until the student becomes a sophomore.

Additional information was requested in an effort to deal with the inaccuracies described above. Each school was asked to submit the same information on applicants not enrolled as on those who were enrolled. Such data could be cross-checked and the duplications eliminated to yield a more accurate picture of the number of individuals applying for entrance into the September 1967 class in schools of nursing in the state.

Many schools supplied this information. Unfortunately, many others were unable to do so and thus it was not possible to totally achieve the objective. Considerable data, mostly from diploma and associate schools of nursing were obtained, however. As a result of cross-checking the information on 2,500 applications this number was reduced by 55% to 1,055. Incomplete returns and the knowledge that each student usually applies to at least three schools suggests that a 55% duplication rate is an underestimation of the true rate. Since it is the only estimate of the percentage of duplication available, by default it becomes the best estimate.

Unfortunately the information received from practical nursing schools was too limited for our purposes. Therefore the following discussion pertains primarily to professional nursing schools. A total number of 7,976 applications were received by the professional schools of nursing responding to the questionnaire. Of this number, 3,590 of 45% is estimated to be the actual number of individuals applying to these schools. When the 2,337 individuals currently enrolled in these schools are subtracted from this figure the 1,253 remaining are the applicants not enrolled in any September 1967 class.

Responses to the question asking for the three most common reasons for withdrawal after acceptance further implicates duplicate applications as a major limitation in determining the actual number of applicants. Acceptance into another baccalaureate, associate or diploma program were the three most common reasons given by the respondents for the professional nursing schools.

Acceptance into another practical nursing program was the most common reason for withdrawal after acceptance to such programs. A change in career choice and marriage were the next most common reasons given.

In addition, information was obtained on the three most common suggestions made to individuals who were not accepted. The majority of schools indicated that little if any counseling is done in such circumstances. In baccalaureate and associate programs this is generally the responsibility of one of the college's admissions officers.

Non-accepted applicants to baccalaureate programs are most commonly advised to consider an associate program. Consideration of a diploma program and consideration of another career are the next most common suggestions. The suggestions offered to the non-accepted applicants to the associate and diploma schools are the same, with additional education and later application being the most common suggestion, followed by referral to a practical nursing program and consideration of another career.

The suggestion offered to the non-accepted applicants to practical nursing schools are the same as those offered by the associate and diploma schools but the order is slightly different. Once again, additional education and later application is the most common suggestion followed by consideration of another practical nursing program.

When the responses of the associate, diploma and practical nursing schools are combined, additional study and later application is the most common suggestion with consideration of a practical nursing school next, followed by consideration of another career. It is of interest to note that additional study and later application is the fourth most common suggestion to non-accepted applicants to baccalaureate programs.

1967 GRADUATES

Information was requested regarding the future work and education plans of the individuals graduating from all types of nursing schools. Not all schools, particularly those offering a baccalaureate degree, were able to supply this information. Since schools which did respond to the question did not have information on plans of all the graduates, these data were incomplete. Although caution must be used in examining the data due to the limitation mentioned above, there is no reason to assume that the plans of the graduates on whom we do not have data would differ significantly.

Table 18 presents data on the work setting plans of the 1967 graduates. The number of individuals making these selections is not included. The gen-

Table 18

WORK SETTING PLANS FOR 1967 GRADUATES

	Type of Program			
Type of Setting	*Baccalaureate* $N = 4$	*Associate* $N = 5$	*Diploma* $N = 33$	*Practical* $N = 24$
General Hospital	X	X	X	X
Physicians Office			X	X
Public Health	X		X	
Pediatrics	X			
Psychiatry	X			
Chronic Disease Hospital				X
Nursing Home				X
Home Care Facility				X
Armed Forces	X		X	X
Peace Corps — Vista	X		X	X
Total Number of Work Settings for Each Type of Program	6	1	5	7

eral trends in the above table are of sufficient importance to warrant comment. When the total number of different settings selected by graduates of the four programs are examined, we see that all the associate degree graduates were expecting to work in general hospitals. This single choice contrasts quite markedly with the number of choices indicated by graduates of the other three programs. The graduates of practical nursing programs indicated the widest selection of work settings.

Examination of the relationship between the type of settings and the type of nursing program from which the individual graduated is also most interesting. It is clear that those work settings in which individuals with long term illnesses receive care are selected by graduates of practical nursing programs but not by graduates of baccalaureate, associate and diploma programs. Settings in which children or the emotionally ill receive care are selected by graduates of baccalaureate programs only, while the public health setting is selected by diploma and baccalaureate graduates.

Information was obtained regarding the geographical areas in which graduates expected to work in order to determine the percentage of those educated in Massachusetts who plan to remain in the state. These data are presented in Table 19.

Table 19

GEOGRAPHICAL AREA IN WHICH GRADUATES EXPECT TO WORK

	Baccalaureate	*Associate*	*Diploma*	*Practical*
Plan to work in Massachusetts.......	46.4%	78.1%	84.2%	87.9%
Plan to work outside Massachusetts.......	53.6%	21.8%	15.6%	12.4%

In order to properly interpret the above table we must consider the percentage of out-of-state students within each type of nursing school. Although this information is not available for these graduates, we do have such data for students admitted to these programs in September, 1967, which can be assumed to be a reasonably accurate estimate of the geographic characteristics of the students entering and graduating from each kind of program.

These data indicate that 31% of the students admitted in 1967 to baccalaureate programs came from outside Massachusetts as did 14% of the students admitted to associate programs, 16% of those admitted to diploma programs and 3% of those admitted to practical nursing programs.

If we reexamine the data on the percentage of graduates planning to work outside the state relative to the percentage originating from out of the state we see that there is essentially no change in the case of diploma graduates, an increase of 7.8% in associate graduates planning to work outside Massachusetts, an increase of 9.4% in practical nursing graduates with such plans and an increase of 22.6% in baccalaureate graduates expecting to work outside the state.

The respondents were asked to indicate the plans for further education of the 1967 graduates. Their responses indicated that approximately 9% of the baccalaureate graduates, 14% of the associate graduates, 4% of the diploma graduates and 1% of the practical nursing graduates were planning further study. The relatively high percentage of associate graduates planning to obtain additional education suggests that this type of program originally designed as terminal preparation is not considered as such by many of the students enrolled in these programs. At the same time, the percentage of diploma graduates planning further education is unexpectedly low. While no figures are available for comparison, it is this writer's hunch that five years ago more diploma graduates would have been considering further education with fewer associate graduates entertaining such a possibility. If this speculation is accurate it has important implications for the future relationship between the baccalaureate and associate programs.

THE R. N. STUDENT

Three of the six baccalaureate programs (all within private institutions) admit "R. N. students." It is most difficult for the schools to accurately determine the number of such students and consequently many of the questions asked about this group were not answered. The best estimate is that 232 "R. N. students" are currently enrolled, with 129 in one school, 80 in another and 23 in the third. Only one school described its admission procedure for such students. Students are admitted as freshmen unless they have at least 30 transferable credits from a college or university in which case they would be admitted into the sophomore class. Proficiency examinations for nursing subjects are currently being developed by the faculty of this school.

FACULTY

Our attention now turns from students toward faculty. Several questions regarding faculty were asked both about the current situation and about future

TABLE 20

ACADEMIC PREPARATION OF NURSING FACULTY

Type of Nursing Program	*No. of Schools Reporting*	*Diploma*	*Associate Degree*	*Baccalaureate Degree*	*Master Degree*	*Doctorate Degree*	*Total*
Baccalaureate....	6	0	0	7	155	5	167
Associate........	6	0	0	16	41	2	59
Diploma.........	27	75	2	194	73	1	345
Practical........	18	22	0	57	9	0	88
Total...........	57	97	2	274	278	8	659
Percent of Total..		14.7	0.3	41.6	42.2	1.2	100.0

plans for the school. Table 20 presents data describing the academic preparation of the faculty by type of nursing program.

There are 659 faculty members in the 57 schools responding to these questions. Almost an equal number of these, representing 84% of the total number, have either a baccalaureate or master's degree. Another 15% hold no degree since their terminal preparation was graduation from a diploma school of nursing. Faculty with associate or doctoral preparation comprise a negligible portion of this population, the former less than 1%, the latter slightly more than 1%. When those with a master's degree or above are combined and those with less than master's degree are combined we find that 43.3% of the total number hold graduate degrees and 46.7% do not. Since nurses without graduate education have been prepared for direct care practice only, it is apparent that almost 50% of those currently teaching have not received adequate preparation for such a position.

All faculty with preparation below the baccalaureate level are in diploma and practical nursing programs. The seven faculty members in baccalaureate programs who hold only the bachelor's degree are all in one school. The following information was collected regarding the magnitude of the shortage of faculty in existing nursing programs. (Table 21.)

TABLE 21

BUDGETED, UNFILLED NURSING FACULTY POSITIONS

Type of Nursing Program	*Number of Schools Reporting*	*Full Time Vacancies*	*Part Time Vacancies*	*Total Number of Vacancies*
Baccalaureate	6	10	0	10
Associate	7	4	0	4
Diploma	27	55	5	60
Practical	28	9	4	13
Total	68	78	9	87

We see that 87 additional faculty are needed to adequately staff the schools of nursing responding to the questionnaire. Obviously, this number would be greater if information had been obtained from all schools.

The results of combining the number of the filled and unfilled faculty positions and calculation of percentage of vacancies for each type of nursing program are presented in Table 22.

TABLE 22

PERCENTAGE OF VACANCIES OUT OF TOTAL FACULTY

Type of Nursing Program	*No. of Filled Faculty Positions*	*No. of Unfilled Faculty Positions*	*Total No. of Faculty*	*Percent of Vacancies*
Baccalaureate......	167	10	177	5.6
Associate..........	59	4	63	6.3
Diploma...........	345	60	405	14.9
Practical..........	88	13	101	12.8

The greatest lack of response to these questions was in diploma schools of nursing. Since this is the type of educational program with the highest number and percentage of vacancies, it is clear that 87 is a gross underestimation of the number of vacancies. This, coupled with the fact that nine practical nursing schools (the type of program with the second highest number and percentage of unfilled positions) are not represented leads to speculation that the actual number of vacancies in schools of nursing in Massachusetts is closer to 125 than 87.

Information was requested about the faculty needed if the number of students were increased. The respondents indicated that approximately 60 additional faculty would be required to meet the needs of an expanded student population. The responses were distributed in the following manner: baccalaureate programs estimated their needs as 32; associate programs as 10; diploma programs as 15; practical nursing programs as 3. It can be assumed that this is an underestimation of the true need. However, if this number is added to the 125 positions estimated to be unfilled at the present time, the faculty needed now and in the immediate future number at least 185.

Although the projected need and the currently unfilled positions cut across all content areas the greatest need is within the medical-surgical specialty area. This is true for all types of programs.

CLINICAL FACILITIES

Certain portions of any curriculum designed to prepare practitioners must be carried out in relevant clinical settings where students can have supervised experience in the application of their knowledge and skills. The accessibility of adequate clinical facilities is an important consideration in the establishment of a nursing school, the development of the program, the size of the school and the feasibility of graduate programs.

Because of the importance of such facilities to the main concern of this study, efforts were made to collect information about them. Unfortunately the questions to determine satisfaction with both the number and the quality of the clinical facilities currently being used by the schools were rather unclear and did not produce the desired information. Thus, we have no data on the current situation.

However, those schools intending to expand their student population were asked to indicate the facilities, including clinical, needed to accommodate the additional students. The data obtained are included in Table 23. The numbers in this table refer to the number of schools expressing the need for such a facility not the number of such facilities needed.

TABLE 23

FACILITIES NEEDED FOR EXPANSION

Type of Facility	*Baccalaureate*	*Associate*	*Diploma*	*Practical*	*Total No. of Schools*
Clinical	0	3	3	2	8
Offices	3	3	2	0	8
Laboratories	0	2	0	0	2
New Buildings	0	0	1	1	2
Dormitories	1	0	3	0	4
Libraries	1	0	4	0	5
Recreation	0	0	1	0	1
Conference Rooms	0	0	1	0	1
Research	1	0	0	0	1
Classrooms	3	2	3	1	9

Eight schools, indicated the need for additional clinical facilities. It is of interest that no baccalaureate program indicated such a need. One baccalaureate program emphasized that the need was not for *more* clinical facilities but for *better* ways to use the resources within the clinical areas currently available.

Eight schools represent a very small number and percentage (8.5%) of the

94 schools in Massachusetts. However, the picture changes somewhat when these data are examined relative to the number of schools planning expansion. Approximately 42% of the associate program, 21% of diploma programs and 9% of the practical nursing programs planning expansion need additional clinical facilities to accomplish this objective. Apparently the majority of the schools can carry out their expansion plans without additional clinical facilities. It is important, especially for the purpose of this study, to note that the associate programs are facing the most difficulty in this regard.

Information regarding projected student enrollment for 1972 and 1980 is most helpful in understanding the differences in the need for additional clinical facilities. These data are included in Tables 24 and 25. The existing associate

TABLE 24

COMPARISON OF PROJECTED ENROLLMENT FOR 1972 WITH CURRENT ENROLLMENT

Type of Nursing Program	*Number of Schools Reporting*	*Projected Enrollment*	*Current Enrollment*	*Difference*	*Percent of Difference*
Baccalaureate	5	480	404	+ 76	19
Associate	7	580	304	+276	91
Diploma	15	863	801	+ 62	8
Practical	22	1,350	1,056	+294	28
Total	49	3,273	2,565	+708	

TABLE 25

COMPARISON OF PROJECTED ENROLLMENT BY 1972 AND 1980

Type of Nursing Program	*Number of Schools Reporting*	*Projected Enrollment 1972*	*Projected Enrollment 1980*	*Difference*	*Percent of Difference*
Baccalaureate	5	480	510	+30	6
Associate	7	580	620	+40	6
Diploma	15	863	863	0	0
Practical	22	1,350	1,359	+ 9	6
Total	49	3,273	3,352	+79	

programs are projecting the highest percentage of expansion by 1972, but not quite the largest number of additional students. The practical nursing programs are expecting to add the largest number of students. This absolute increase, however, is considerably less from a percentage point of view than the projections of the associate programs. The smallest increase in numbers and percentage is projected by the diploma schools. The baccalaureate programs rate of growth by this date is quite modest in numbers and percentages.

The differences between 1972 and 1980 are negligible for the most part. The percentage rate of growth for the baccalaureate and the associate programs is the same. The diploma programs are anticipating no further expansion while the additional students in practical nursing programs are minimal. The very high expansion projected by associate programs by 1972 would seem to be the very simple explanation of their greater need for additional clinical facilities.

OTHER FACILITIES NEEDED

The largest need indicated by the schools was for additional classroom space. While all types of programs pointed to this need, only the baccalaureate, associate and diploma programs mentioned the shortage of office space for faculty as a problem.

Diploma schools have the greatest need for additional library facilities and three diploma schools indicated the need for additional dormitory space. In view of the large number of unfilled places in this type of program the wisdom of expanding such facilities might be questioned.

DESCRIPTION OF APPLICANTS TO SCHOOLS OF NURSING IN MASSACHUSETTS

When possible, the same data were collected on applicants to all types of nursing programs. Age and home town presented no problem but there was some difficulty in relation to indices of cognitive ability. Not all the programs have the same admission criteria; the baccalaureate and associate programs require college entrance examination scores while very few of the diploma programs have this requirement and they are rarely, if ever, required by the practical nursing programs. In addition, the National League for Nursing examination which is required for admission into most diploma schools is not used by any of the other three programs. The practical nursing programs also have a test which is not used by any other type of nursing program. Since data on college entrance examinations were available on the largest number of applicants, this became the best basis for comparison. Comparisons are limited to applicants to baccalaureate and associate programs and to those diploma schools which included the applicants' college entrance examination scores.

AGE

Data on the age of students who enrolled in the September 1967 class is included in Table 26.

TABLE 26

AGE OF STUDENTS ENROLLED IN SEPTEMBER 1967 CLASS

Type of Nursing Program	*Number of Students*	*Range*	*Mean*	*Median*
Baccalaureate*.	327	17–30	18	18
Associate.	165	16–51	23	20
Diploma.	1,171	17–47	18	18
Practical.	637	16–55	23	21
Total Sample.	2,300	16–55	20.5	19

* No "R.N. students" included.

It can be seen that the baccalaureate and diploma school applicants have the same mean and median age, although the diploma students have a considerably more extensive range at the upper level. The students in the associate and practical nursing programs are quite alike, having the same mean age and only a slightly different median. The range of ages included in both programs is almost identical.

While the range for this population as a whole is quite large being distributed from 16 years to 55 years, the median score indicates that it is primarily a young population with 1,150 students between 16–19 years of age and the other 1,150 students spread between 19.1 years and 55 years.

GEOGRAPHICAL DISTRIBUTION

The majority (80%) of the students enrolled in the September 1967 classes came from Massachusetts. Four hundred and seventy-two, or 20%, are reported as having their permanent residence outside the state. Of the out of state students, 240 are in diploma schools, 161 are in the baccalaureate programs, 43 in associate programs and 28 in practical nursing programs.

The students in the baccalaureate program came from 10 states, the Bahamas and Canada; those in the associate programs from 5 states and Switzerland; those in the diploma programs from 16 states, Japan, the Bahamas, Canada, Spain, Nigeria, Korea, Africa, Sweden, Ghana and Norway; those in the practical nursing programs from 5 states, the West Indies, the Azores and Nova Scotia.

COLLEGE ENTRANCE EXAMINATION SCORES

The basic descriptive data regarding college board scores by type of program are presented in Table 27.

TABLE 27

COLLEGE BOARD SCORES OF SEPTEMBER, 1967 ADMISSIONS BY TYPE OF PROGRAM

	Number of Students	VERBAL SCORES *Range*	*Median*	*Mean*	*S.D.*
Baccalaureate	327	275–744	532	547	70.53
Associate	165	302–711	457	462	65.43
Diploma	1,171	256–739	438	447	66.87

	Number of Students	MATH SCORES *Range*	*Median*	*Mean*	*S.D.*
Baccalaureate	327	206–730	533	539	91.10
Associate	165	245–754	458	452	65.15
Diploma	1,171	270–701	452	453	66.19

A scanning of the verbal scores suggests that the students in the three programs are quite different with respect to performance on this test. Examination of the math scores suggests that the baccalaureate students are different from the associate and the diploma students who appear to be rather similar in this respect. In order to determine whether the differences we have observed are due to chance or are the result of true differences in the students a series of "t" tests for unequal size samples were carried out. The following results were obtained.

Associate — Diploma

Verbal Scores t = 2.72 P< .01
Math Scores t = .18 N. S.

Baccalaureate — Diploma

Verbal Scores t = 23.98 P< .0001
Math Scores t = 19.23 P< .0001

Baccalaureate — Associate

Verbal Scores t = 12.99 P< .001
Math Scores t = 10.98 P< .01

The differences between the baccalaureate students and the associate and diploma students are far beyond what could be expected by chance. In all instances the statistical analysis revealed that the students enrolled in the September, 1967 baccalaureate program have significantly higher verbal and math scores than do those students enrolled in the September, 1967 associate and diploma school classes.

Comparison of the scores of the associate and the diploma students indicates that there is no significant difference in their math scores but there is a significant difference in their verbal scores with the associate students higher than the diploma students. Statistical analysis of the data in Table 25 corroborates our original observations. The baccalaureate students are very different from the associate and diploma students; the associate and diploma students are quite similar.

The college board scores were also available on the students who have applied but, according to the information made available to us, were not enrolled in a school of nursing. Thus it was possible to compare their scores with those of students enrolled in the September, 1967 class in the three types of R. N. programs. The basic descriptive data are presented in Table 28.

TABLE 28

COLLEGE BOARD SCORES OF APPLICANTS TO NURSING SCHOOLS WHO ARE NOT ENROLLED IN THE SEPTEMBER, 1967 CLASS

Number of Students	*Verbal Scores*				*Math Scores*			
	Range	*Median*	*Mean*	*S.D.*	*Range*	*Median*	*Mean*	*S.D.*
1,970	208–730	397	420	87.05	211–694	427	422	79.29

Examination of Table 27 and 28 suggests that the rejected applicants perform more poorly on these tests than do those currently enrolled in the freshman class in schools of nursing. Once again these data were analyzed by use of the Fischer "t" test for unequal size samples. The following results were obtained.

Baccalaureate Freshman Students vs. Non-Enrolled Applicants

Verbal Scores	$t = 22.39$	$P < .0001$
Math Scores	$t = 20.10$	$P < .0001$

Associate Freshman Students vs. Non-Enrolled Applicants

Verbal Scores	$t = 5.69$	$P < .001$
Math Scores	$t = 4.39$	$P < .001$

Diploma Freshman Students vs. Non-Enrolled Applicants

Verbal Scores	$t = 7.14$	$P < .001$
Math Scores	$t = 8.26$	$P < .001$

It is clear that the group of non-enrolled applicants is significantly different from the students enrolled in the freshman class in each of the three types of nursing programs. The non-enrolled students' scores are considerably lower than those of the enrolled students which is not surprising. However, it would be a mistake to move on without examining the data in Table 28 more carefully. The median scores on both verbal and math tests are considerably higher than the lowest score of students who are currently enrolled in each of the nursing programs. One half of the non-enrolled students (985) have verbal scores between 397 and 730 and the same number, though not necessarily the same individuals, have math scores between 427 and 694. It is also important to note that 1/3 of this group have scores within one standard deviation below the mean. This means that 657 individuals have verbal scores between 333–420 and math scores between 343–422.

While we cannot be certain that none of these individuals is enrolled in a school of nursing because of the incomplete returns, we probably can assume that this is a relatively accurate conclusion. It is evident that there are many qualified individuals interested in a career in nursing who were unable to find an appropriate place. This is in the face of 435 unfilled positions in all types of nursing.

ATTRACTIVENESS OF A NURSING CAREER TO MASSACHUSETTS RESIDENTS

After removing duplicate applications from the data obtained from the schools of nursing responding to the questionnaire, the number of individuals who applied for admission to the schools of nursing in Massachusetts equaled 4,270. This is less than 1% (.85%) of the population of the state between the ages of 18 and 24 years. If only females in this age range are used as the basis of our calculation, the percentage applying to schools of nursing increases to 1.76%. The age span used is considerably smaller than the range from which the applicants actually come (16–54 years), but closer to the age group with the highest representation (16–19 years).

Since the largest number of admissions to schools of nursing are current high school graduates it is of interest to explore this group's interest in nursing. In 1962, 22,742 (52%) of the 43,309 students graduating from high schools continued their education. Of these, 3,168 individuals were admitted to all types of nursing programs in Massachusetts. If we accept the current percent (20%) of out-of-state admissions as a relatively constant figure, then 634 of the 3,168 students would have been from out-of-state, leaving 2,534 Massachusetts residents admitted to these schools. If we assume that the age range of admissions in 1962 was similar to that in 1967, then 50% of 1,267 of those admitted would be new high school graduates. Thus 5.5% of those continuing their education selected nursing. Three percent of all individuals graduating from high school that year (1962) were admitted to one of the four nursing programs.

It is reported in *Facts About Nursing* that 5% of the previous year female high school graduates were admitted to R.N. programs.[17] No data are available for the percentage entering practical nursing programs. Massachusetts' data on high school graduates is not divided into male and female graduates and thus we cannot calculate the percentage of the female high school graduates entering nursing. Under such circumstances we can only estimate a 50-50 distribution, in which case the percentage of admission to schools of nursing of the female high school graduate would be 6%.

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[17] *Facts About Nursing*, American Nurses Association, New York, 1962, p. 91.

PART II

Implications

APPLICANTS — ADMISSIONS

There appear to be a sufficient number of individuals interested in nursing to fill all the places available in existing programs. The fact that there are many hundreds of qualified applicants, at least as measured by college board scores, who are not enrolled in these schools indicates inadequate cooperation and coordination among the schools and between nursing education and high school guidance personnel. An unfilled place in the presence of "qualified" non-accepted applicants is most unfortunate for the individual, the field and the community. A review of current admission policies and referral systems in order to explore alternative procedures which might prevent the current paradoxical situation would be desirable.

Simultaneously it must be recognized that success in the above venture would result in insufficient places for interested, qualified individuals currently applying to schools of nursing. It is important to realize that this shortage of places would occur in the face of a very low percentage of the population selecting nursing as a career.

It is generally recognized that the recruitment efforts of the profession during recent years have been minimal and are at least partially responsible for the limited number of individuals choosing nursing as a career. The need for increased recruitment activity is quite apparent and there is every reason to have confidence that it could and would increase the number of applicants to nursing schools. Indeed the success of a rather unorthodox recruiting program by a voluntary group of nurses in Boston clearly demonstrates that there is considerable latent interest in nursing within a population rarely included in any active recruitment efforts. However, attention to new recruitment efforts without plans for additional nursing programs would be folly.

CLINICAL FACILITIES

Only eight of the schools participating in this study indicated the need for additional clinical facilities for an expanded enrollment. This suggests that this aspect of a nursing program is not a major problem in the state. There is, however, other evidence that indicates that the extent of problem depends largely on the geographical location of the school and that it is not the number of schools alone which must be considered, but also the essentiality of a particular clinical facility to the curriculum. At the same time there is a general sense of concern about clinical facilities being expressed by many nurses in education and practice.

Unfortunately, only very limited data were collected on clinical facilities in this study. Thus the significance and meaning of this general sense of dissatisfaction with the current situation is not completely clear. There are, however, some possibilities suggested.

One of the first things that emerges from information on the use of clinical facilities is that only a very small percentage of all the accredited facilities in Massachusetts are participating in the nursing education process. While it can be understood that not all accredited facilities are either available, accessible or suitable for nursing education it is quite likely that many of them are.

In addition there has generally been very little change in the type of clinical facility used or the way in which it has been used. Only a few schools indicated that they were examining one or both of these factors in view of the changing needs of society. The implication of the selectiveness apparent in the plans of the graduates of the different types of programs, where we saw only graduates of practical nursing schools selecting settings in which elderly and/or chronically ill patients receive care, further emphasizes the need for serious alteration in this area.

The seasonal pattern of use of the clinical facilities is another perplexing feature of this picture. Fifty-three medical-surgical clinical areas were reported as being used by schools of nursing. The number of such schools varied from 75 in the fall to 70 in the winter, 68 in the spring and 43 in the summer. The twenty public health facilities being used have students from twenty-three schools assigned in the fall, from 21 in the winter, 22 in the spring and 4 in the summer. Eighteen psychiatric facilities are used by 39 schools in the fall, by 45 in the winter, 50 in the spring and 30 in the summer. Eleven chronic illness agencies were used by 10 schools in the fall, 7 in the winter, 5 in the spring and 2 in the summer. Thirty-two maternity agencies were reported as having students from 41 schools in the fall, 40 in the winter, 45 in the spring and 33 in the summer.

Obviously there is very limited use of these facilities during the summer months. However, there are some marked differences according to type of program. Diploma programs make the most consistent use of facilities. On the other hand the baccalaureate programs rarely use clinical agencies during the summer with the rare exception of public health and psychiatric agencies.

Another area of considerable concern to nursing educators is the practice of assigning different types of students to the same clinical area and often to the same patient on the different days in which the schools use the same clinical facility. It is quite generally, possibly universally, assumed that students in different types of nursing programs should not be assigned to the same patient simultaneously. This is somewhat paradoxical since after graduation they will be expected to work together.

We have, then, a situation similar to that discussed regarding applications to schools of nursing. Much of the difficulty appears to be due to limited coordination in the use of clinical agencies by different schools and different types of schools. Again the need for a reexamination of the total situation is obvious. Time could profitably be spent in reviewing the following problems: the type of facilities currently in use; the place of the less traditionally used facility; the relationship of all facilities to the curriculum; the seasonal pattern of student assignments; the rationale and consequence of separating students from different types of programs during their clinical experience.

As in the case of interested applicants, there appear to be sufficient clinical facilities in most areas of the state for the existing nursing programs and any additional schools. However, better use could be made of those facilities currently participating in nursing education and many of those not currently in use.

FACULTY

Let us now draw some implications from the data on faculty in schools of nursing. It was estimated that, at the present time, there are 125 unfilled, budgeted nurse faculty positions in all types of schools of nursing in the state. This number increased to 185 when the 60 faculty estimated as necessary for the achievement of expansion of these schools were added. This does not include the faculty needed by the graduate programs in nursing nor the number required by the five community colleges or the one state college which will be offering nursing programs for the first time in September, 1968. If we estimate that each associate degree program will need appoximately 10 faculty members to reach its enrollment potential and the baccalaureate program will need approximately 50 faculty members to achieve its goal, another 100 faculty must be added. Thus, the overall need for additional nursing faculty exceeds 275. Another disturbing feature of this picture is that only 43% of the current faculty have preparation at or above the master's level.

Thus the problem regarding faculty is very different from that of either students or clinical facilities. We must consider the dual problems of inadequate numbers and inadequate preparation. While it is desirable for every teacher to have at least a master's degree, it is almost mandatory for appointment to the faculty of junior and senior colleges and universities. Thus, expansion of either the baccalaureate or associate programs depends to a great extent on the availability of nurses with graduate preparation.

At the present time there are only two schools in Massachusetts offering graduate programs and both of these are within private higher education institutions. The University of Massachusetts School of Nursing has developed a master's program in medical-surgical nursing to which six to eight students will be admitted in September, 1968. Expansion of this program is limited by the lack of sufficient clinical facilities in this section of the state. Development of graduate programs in other nursing specialty areas in this school depend upon the procurement of prepared faculty and adequate clinical facilities.

Thus, two private institutions are the major sources of prepared faculty to meet the needs of all schools of nursing in the state. One of these schools graduates between 35–40 students each year with majors in either medical-surgical, public health, maternal and child health or psychiatric nursing. The other school graduates approximately 250 students yearly with majors in either medical-surgical, rehabilitation, public health, maternal and child health, psychiatric nursing, nursing service administration or nursing education administration.

It must be remembered that the services of these graduates are sought by practice as well as educational institutions inside and outside Massachusetts. According to the latest available data, only 15,300 or 2.5% of the 621,000 employed nurses in the United States have at least a master's level preparation with approximately 50% employed in nursing education.[18] Generally, then, no more than 50% of the individuals currently receiving graduate preparation can be expected to enter teaching positions.

What are the implications of preparing an insufficient number of nurses for the faculty position? The data indicate that schools turn to the next best prepared group — those with the baccalaureate degree. Approximately 42% of the current faculty hold this degree. When vacancies still exist individuals with associate degrees or a diploma in nursing are asked to fill this need. There are two very serious consequences under such circumstances. The first is obvious — individuals are attempting to assume responsibilities for which they are not adequately prepared and it can be assumed that the students suffer most. The second equally important consequence is that all these individuals are being drawn away from the direct care situations, thus contributing to the serious shortage of professional nursing care in all practice areas. Expansion of graduate programs is completely dependent on the availability of faculty prepared at least at the master's level, while availability of faculty with this preparation depends on the number of nurses from graduate programs. How can this cycle be broken? Where are the faculty and the students to come from? The faculty must be drawn from an already existing pool of nurses prepared at the graduate level which has certain implications for the direction of the search. It is reported that in Massachusetts there are 181 nurses with master's degrees and 8 with doctoral degrees between the ages of 25–50 who are not employed.[19] At the same time 426 nurses with master's and doctoral degrees are employed in a variety of practice areas.

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[18] *Facts About Nursing.* p. 10.

Again we are faced with the possibility that a reexamination both of current philosophy and practice regarding part-time employment, and the relationship between nursing service and nursing education might result in new opportunities for the resolution of some of these difficulties. In addition, cooperative exploration among nursing educators from all types of programs is needed to determine the best utilization of the available pool of nurses with graduate preparation.

We now turn our attention to the problem of the source of graduate students. Obviously these students must come from the pool of nurses with baccalaureate degrees. According to the latest figures in Massachusetts there are 2,906 nurses between 21 and 50 years who hold baccalaureate degrees.[20] Certainly not all are qualified graduate school candidates but we can assume that at least a quarter or a third are. Consequently, approximately 700 to 900 nurses could be admitted into graduate school. Obviously they could not be accommodated by the existing graduate programs in the state. It is of interest, however, that neither of the two existing graduate programs reported that qualified applicants are being turned away due to lack of spaces.

As was previously mentioned, the location of both graduate programs in Boston inconveniences nurses living outside a 20 mile radius of the city and undoubtedly deters many from obtaining further education. Evidence to this effect is reported in a 1960 study of nursing needs in Massachusetts. Faculty were asked if they desired additional education and to state the reasons for not obtaining it if it was desired. Of the 1,630 respondents, 1,132 stated their desire for additional education and listed insufficient funds, family responsibilities, travel distance and unavailability of programs as the reasons for not being able to achieve this desire.[21]

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[19] *1966 Inventory of Registered Nurses — Summary of Data for Massachusetts.* Report of ANA Research and Statistics Department.

[20] *Ibid.*

Some of these barriers still exist and are important considerations. In addition there is another factor less frequently discussed but which warrants equal consideration. The community, other health professionals and the majority of nursing personnel do not place a very high value on advanced education for nurses and are generally openly critical of the fact that such preparation frequently results in an individual moving from a practice to an educational setting. Such an atmosphere is not conducive to increasing the attractiveness of graduate education in nursing.

All this tends to point to a somewhat more complex situation than was apparent at first glance. Certainly it is clear that careful examination must be made of the geographical location as well as the academic quality of any higher education institution prior to the establishment of additional graduate nursing programs. Simultaneously, however, many others in responsible and influential positions in the state, both inside and outside the profession, might wish to re-evaluate their attitudes toward advanced education in nursing.

Knowing that only a minority of individuals with baccalaureate degrees will be eligible for graduate preparation, and that only a percentage of these will be interested in such preparation and that approximately half of those holding graduate degrees will be interested in accepting a faculty position, a large pool of baccalaureate prepared nurses is necessary. How can this pool be increased? One way is to increase the number of students in the basic undergraduate programs. The increases planned by the existing schools are minimal and will not add significantly to this pool. Also, as we have already seen, the achievement of this projected expansion in enrollment in some schools depends on the acquisition of additional faculty. Establishment of new baccalaureate programs, while a reasonable possibility, is more of a long term solution because such action is closely tied to the effective solution of the faculty shortage.

There are, however, a large number of nurses (20,456) in this state who are graduates of either an associate or a diploma nursing program who range in age from 21 to 50 years. Approximately 13,000 of this group are reported as being employed and approximately 7,000 currently not employed. While not all are interested in further education, nor qualified for baccalaureate preparation, it probably can be assumed that a large percentage are qualified and a substantial number of these might desire additional education.

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[21] Anne T. Howard and Dorrian Apple, *Nursing Needs and Resources in Massachusetts*, 1960, pp. 89–90.

Where could this group of interested, qualified nurses obtain the additional preparation required for a baccalaureate degree? The only area of the state is in Boston where three private institutions accept "R.N. students." Many of the respondents to the questionnaire commented on the lack of such opportunity outside Boston and emphasized the interest in further education both among many graduates of the school and current students. In addition, several stated that the "R.N. student" did not feel welcome in the college or university setting at this time.

The accuracy of these perceptions is not an issue for this report but some clarification of the changes in the admission procedure for "R.N. students" may be helpful to the non-nurse reader. Previously there was a separate curriculum for such students with transfer of approximately a year and a half of college credits granted to most students. Thus, a baccalaureate degree could be obtained in approximately two and one-half years. Now, separate curriculum have either been discontinued or are in the process of being phased out and "R.N. students" are now admitted into the basic undergraduate curriculum. Transfer credits are granted for science and humanities courses acceptable to the faculty of these departments while performance on placement examinations is used to determine an individual's position within the nursing curriculum. There are still a few problems in this area due to the difficulty in developing valid and reliable nursing placement examinations.

A very small number (232) of "R.N. students" are reported to be currently enrolled in baccalaureate programs. Also a very low percentage (4%) of the 1967 graduates of diploma programs are reported to be planning additional education despite the fact that approximately 20% of this group have combined math and verbal college board scores over 1,000. Approximately the same percentage of associate degree students have similar college board scores and yet a much higher percentage have indicated intentions to obtain further education. While it would be preferable for individuals qualified for admission into a baccalaureate program to have made this decision initially, when this has not occurred, alternative ways to achieve this end should be accessible and the individual be encouraged to take one of these.

This discussion of the "R.N. student" has important implications for the profession and for education. Nursing has always had what may be called an open system of education and while this has created certain problems it also eliminated others. It now appears that actions taken to correct some of these problems is creating a new set of difficulties. It seems appropriate, then, to recognize this possibility and to bring together nursing educators from all types of programs to discuss ways in which the desired progress might be made in professional education, while, at the same time, safeguarding some of the openness and flexibility in the system which has worked to the advantage of the majority of nurses currently holding advanced degrees.

SCHOOLS OF NURSING

Examination of the nature of the present resources in Massachusetts for education of nursing personnel indicated that there are 57 schools in which students eligible for R.N. licensing examination are prepared and 37 schools for the preparation of practical nurses. The R.N. programs are distributed as follows:

Type of Program	*Number of Schools*	*Distribution in Massachusetts*	*Distribution in United States*
Baccalaureate	6	10%	17%
Associate	8	15%	17%
Diploma	43	75%	65%
Total	57	100%	100%

When comparison between the distribution of these schools is made with the national distribution, Massachusetts is overrepresented at the diploma level, and underrepresented at the baccalaureate and associate levels. Projections for the opening of six new schools of nursing (five associate and one baccalaureate) in Massachusetts in September, 1968 will shift this ratio in the following manner:

Type of Program	*1967 Distribution*	*1968 Distribution*
Baccalaureate	10%	11%
Associate	15%	21%
Diploma	75%	68%

What is the significance of the trend seen in this table? We see that in 1967, 90% of the schools were offering less than baccalaureate preparation and in 1968 89% will be doing so. While the changes in the distributions of types of programs markedly increases the opportunities for those interested in preparation at the associate degree level there is no significant alteration in the opportunities for those with the ability or interest in preparation at the baccalaureate level. An increase in associate programs will result in an increase in the number of nurses prepared for direct care positions only. When it is recognized that the teachers needed to maintain and expand current programs, to fill new programs and to develop additional graduate programs, must be drawn from a pool of nurses with the baccalaureate degree, it is clear that the projections for 1968 will do little to improve the present situation. Increases in number of graduates does not automatically add to this pool and it should be repeated that it is unwise and misleading to focus on numbers alone. It should not be forgotten that in addition to providing the pool from which graduate students are drawn, the baccalaureate programs also prepare individuals for direct care positions. These observations require further examination of the plans of existing schools of nursing and of those institutions currently not offering nursing programs in order to determine what, if any, changes can be expected beyond 1968.

Data collected in this study indicate that many in responsible positions in diploma schools and in hospital administration are questioning the prudence of indefinitely maintaining this type of program. A great number of such individuals subscribe to the belief that education can best be carried out in educational institutions. Many would welcome the opportunity to focus their energies and resources on direct patient care and on the development of continuing education programs for all hospital employees. Progress in this direction, however, is being hampered by the lack of nursing programs in educational institutions in many areas in the state. At the present time there are few institutions ready and willing to take over the responsibility for nursing education which traditionally has been assumed by many of the hospitals in Massachusetts.

There also appears to be a sense of frustration within this group because plans of surrounding educational institutions regarding nursing programs are not always communicated to them or at times are so indefinite that they cannot be taken into account in planning their own programs. Coupled with the expression of the need for both baccalaureate and associate programs in their areas is their eagerness to be involved in this planning so that orderly transition, so essential to the success and acceptance of these programs, can be achieved. In two areas of the state groups are meeting for this purpose.

It is significant that none of the respondents from all types of nursing programs believe that the private educational institutions are interested in developing nursing programs. Only one such college not now offering a nursing curriculum was noted as considering such a venture. The implication is obvious. If anything is to be done in Massachusetts it most likely will have to be done by the public institutions of higher education. Indeed, the junior college level of this sector has already assumed this responsibility with five new programs scheduled to open in September, 1968.

At the same time it was pointed out that there is a large group of individuals with either a bachelor of arts or a bachelor of science degree in a major other than nursing, who constitute a ready pool for advanced preparation in nursing. While no data were collected on the reasons for this group not entering nursing all evidence indicates that there is little encouragement for such a choice. There is only one program available to this group in this country and this is not situated in an educational institution. Also the popular concept of a nurse which excludes reference to the possibility of teaching, administrative or research positions as well as direct care positions may be reducing the attractiveness of nursing as a career to this group of college graduates.

SUMMARY

There are more individuals interested in a career in nursing than can be accommodated by the existing schools. This number probably could be increased still further with different recruiting and admission procedures.

Massachusetts seems to have adequate clinical facilities to serve the needs of the existing and projected schools of nursing. However, the ways in which these are being used is very much open to question.

There are very limited resources for "R.N. students" to obtain a baccalaureate degree in nursing. Only three schools in Boston currently admit these students. There is no evidence that additional private junior or senior colleges or universities are seriously interested in offering nursing programs.

Many directors, faculty and hospital administrators associated with diploma schools of nursing desire to praticipate in planning for different nursing education programs in their area.

The shortage of prepared faculty clearly is the most serious and complex problem facing the profession. With only two graduate programs in the state the prospects for effectively dealing with this problem are very dim.

The ratio of the type of programs offering preparation at less than the baccalaureate level to those at the baccalaureate level, plus the dearth of opportunities for graduate education, dramatize the consequence of having focused attention on only one aspect of the total problem.

Recommendations

It is clear that preoccupation with numbers *per se* diverts attention from the complexity of the problems of nursing care and education. It merely results in exhortations for more of the same type of approach which has not solved the problem in the past, cannot solve it now and holds little hope of solving it in the future. If an adequate supply of nurses at all levels of preparation including direct care, teaching, supervision, and research is desired, it cannot be depended upon to happen fortuitously.

1. Development of a System of Nursing Education

The first recommendation is for the acceptance of the need for development of a comprehensive, flexible system of nursing education in the state. The current situation in nursing education, characterized by isolation and independence, must be replaced by a system characterized by cooperation and interdependence. Discussion of different types of nursing programs and specific schools of nursing must take place within the context of a comprehensive state-wide system of education, rather than within the limited context of a particular geographic area, a particular type of nursing program or the needs of a particular health facility.

To be effective, this system must provide the opportunity to pursue a career in nursing to all those interested in doing so; it must insure sufficient flexibility so that different levels of talent can be fully developed and utilized; it must insure that graduates are prepared to accept responsibility for the health care of every segment of the community; it must insure a more appropriate balance in the composition of nursing personnel.

The resources of public and private educational institutions, health care institutions, the nursing profession and other groups with responsibility for nursing education in this state must come together to plan this system and to commit themselves to its implementation.

The ensuing system, however, must not be viewed as permanently fixed. On the contrary, the system must include procedures for setting priorities, periodic re-evaluation and the setting of new goals and priorities. Without this flexible and self-evaluative orientation it would be too easy to perpetuate, in different but equally insidious form, a policy of unexamined assumptions which is at least partially responsible for the present difficult situation.

Although the overall plan for the state must serve as the context within which local planning is done, it is likely that some natural geographic divisions around existing and planned state educational institutions might serve as the best focus for planning. All the components needed for the successful accomplishment of such a plan already exist within the public system of education and include the Board of Higher Education, with the Boards of Trustees of the Segments of Public Higher Education and the Division of Vocational Education. It is hoped and expected that the Association of Independent Schools and Colleges will join in this effort. It is apparent therefore that no additional agency is needed but new ways of joint planning and collaboration must be developed.

The remaining recommendations are more specific. They are considered to be the necessary ingredients for successful achievement of the overall objective. Priorities have been assigned with this in mind and should be examined and judged within this context.

2. Expansion of Graduate Preparation in Nursing

Highest priority must be given to the expansion of nursing programs at the graduate level.

The critical nature of the shortage of prepared faculty is jeopardizing every aspect of nursing. An adequate number of prepared faculty is the foundation upon which the whole system rests. Insufficient numbers of faculty and/or unqualified faculty preclude the preparation of sufficient numbers of practitioners capable of delivering high quality nursing care to the community.

At this time, the University of Massachusetts (Amherst) is the only state institution with the potential for the development of a graduate nursing program. The School of Nursing there has a very small graduate program in medical-surgical nursing. Although the academic facilities at this institution are excellent and could easily support both the expansion of the medical-surgical program and development of programs in other specialty fields, the clinical facilities in this geographical area are inadequate and mitigate against the development of graduate programs of significant size.

Plans for the establishment of a medical school, a dental school and a hospital in Worcester under the auspices of the University of Massachusetts combine to make this city and this setting an excellent location for the establishment of graduate programs in nursing. In addition, the central location of this city, plus the availability of clinical facilities, will increase the attractiveness of this complex for other health occupational groups and should result in the development of an educational center for the health professions.

There are, however, two serious issues which cloud this picture. O is related to the time at which an educational facility will become available. he second is a much more important and complex concern and related to the ailability of complementary graduate programs in the arts and sciences. A stng and comprehensive graduate school in the basic academic disciplines is eential to the development and maintenance of a high quality graduate progra in any profession.

If there are no plans for such a graduate school, the desirability of a gaduate nursing program at Worcester is greatly diminished. In spite of th, it still remains the most feasible location since none of the state colleges hav he necessary resources in the arts and sciences for graduate level preparaon. Such circumstances pose great difficulties for nursing faculty in planning r a graduate program. A great deal of time, thought and energy will have t be devoted to the feasibility of establishing the nursing aspect of the progra in Worcester, with the non-nursing aspects located in Amherst. It mus be emphasized that the lack of a graduate school in the arts and sciences not ly is a deterrent to the establishment of a high quality graduate program in rsing, but also to graduate programs in every profession. Irrespective o he difficulties inherent in the Worcester site, it is recommended that commit nt be made now to the establishment of a large graduate program in nursi at the University of Massachusetts campus in Worcester. All the resoces needed for planning and development of such a program should be made ailable immediately. In this way, once facilities at Worcester are available he program can be implemented simultaneously. Meanwhile, support shoul be given for instituting whatever programs are possible within the limitatio of the Amherst campus.

Obviously, there will be a time lag before graduates from the proped University of Massachusetts program can aid in reduction of the faculty s rtage. Therefore, all alternatives for assistance to the existing graduate ograms should be explored including examination of laws which might precde such assistance.

In addition, the state should explore the possibility of entering into ntracts with private institutions to insure that advanced education in nursi is available to all interested, qualified Massachusetts residents until the sta itself provides such opportunities. Simultaneously, it might be possible fo he state to assume more responsibility for nursing preparation at the baccaureate level, thus permitting the private institutions to direct more of eir resources into graduate level preparation.

Attention should also be directed toward the establishment of a nu ng program for individuals holding a baccalaureate degree in a major other an nursing. Both the University of Massachusetts and Boston University have indicated that consideration and preliminary discussion have taken place regarding such a possibility. It is unlikely that a program of this nature could be developed in the near future at the University of Massachusetts since all the resources of this institution will be needed for expansion of the baccalaureate nursing program and the graduate program for individuals with an undergraduate nursing major.

Thus it may be necessary to explore the depth of Boston University's interest in developing such a program. Boston University is a very appropriate location for such a program because of its commitment to education in the health field and the existence of an extensive graduate school of arts and sciences. In addition to a School of Nursing, Boston University also has Schools of Allied Health Sciences, Dentistry, Medicine and Social Work. Should the University not wish to proceed with this venture, Harvard and Tufts Universities should be approached regarding their interest in such a development. Both of these institutions have graduate schools of Dentistry and Medicine and a long history of experience in developing excellent professional programs based on a liberal arts baccalaureate preparation.

3. ESTABLISHMENT OF ADDITIONAL BACCALAUREATE NURSING PROGRAMS

Efforts to expand the number and size of graduate programs in nursing will be fruitless unless there is a corresponding increase in the number of nurses prepared to enter such programs. At present the only two schools in the public system of higher education offering a baccalaureate nursing program are the University of Massachusetts (Amherst) and the State College at Fitchburg. In September, 1967 both admitted almost their full complement of students, with only two vacancies at one of these schools and one at the other. Another baccalaureate program is scheduled to open at the State College at Lowell in September, 1968. Approval should be granted immediately for the development of similar programs at Southeastern Massachusetts Technological Institute and at the State College at Salem. All the necessary resources should be made available to insure early implementation of these plans.

The State Colleges at Boston, Bridgewater, Framingham, North Adams, Westfield and Worcester as well as the University of Massachusetts at Boston are potential sites for the development of additional baccalaureate nursing programs. It probably would be imprudent at this time to give serious consideration to either of the Boston-based institutions, since four of the existing collegiate nursing programs are located in this area. The State College at North Adams also should be accorded low priority due to the limited nature of available clinical facilities, its limited 18–24 years-old population and the small size of the college. Since Westfield is in such close proximity to Amherst there is a 75% overlap of the population within a 20 mile radius of each campus and this college should also be eliminated as a location for a school of nursing. At this time the State College at Worcester also is an unlikely prospect due to its proximity to the school of nursing at the State College at Fitchburg. It is recommended, however, that in planning for the health education complex at Worcester, the existing facilities at the State College at Worcester and Fitchburg, be considered as well as those of the private educational institutions in this area.

In examining the State College at Bridgewater and Framingham as possible locations for another baccalaureate program, indications are that while both have many desirable characteristics, Framingham should be accorded a higher priority. There are approximately three times as many individuals between 18–24 years of age within 15 miles of Framingham than are within 15 miles of Bridgewater. In addition, the population overlap is almost negligible between Framingham and Fitchburg, the closest state school including a school of nursing. The overlap between Bridgewater and Southeastern Massachusetts Technological Institute is considerably higher with a 24% population overlap within 15 miles of each school. In addition Framingham has already moved into the health field with an undergraduate program in medical technology. Thus it might be reasonable to consider the further development of undergraduate health occupation programs since many of the supporting faculty and clinical facilities are similar.

It is recommended, however, that a program at Framingham not be developed until the programs in the State Colleges at Fitchburg, Lowell, Salem, Southeastern Massachusetts Technological Institute and the University of Massachusetts reach nearly 100 admissions yearly. To do so, additional dormitory facilities might be required at these institutions but this is more feasible than is the acquisition of nursing faculty for a newly established school.

4. Development of New Methods to Assist "R.N. Students" Obtain A Baccalaureate Degree

In a previous section it was pointed out that immediate means to increase the pool of nurses prepared at the baccalaureate level is through the advanced preparation of graduates from either diploma or associate degree programs. It is recommended, therefore, that the State College system use its extensive resources to make education more accessible to this group. The following actions should be taken immediately: (1) Construction of valid and reliable placement examinations in all fields including the arts and sciences, as well as nursing. (2) Development of courses of programmed instruction to prepare for as many of these placement examinations as possible. (3) Availability to R.N.'s of these programs through the state college system. (4) Acceptance in all state colleges of credits obtained through successful completion of a course in any state college. (5) Flexibility of curriculum patterns within the nursing major to include better use of summer sessions, exchange courses and exchange faculty within the state colleges and, when possible, with schools of nursing in private institutions. (6) Availability of financial assistance to all who need it for completion of the baccalaureate program.

5. DEVELOPMENT OF PROCEDURES TO INCREASE NURSING FACULTIES.

Procedures must be developed to fully utilize the talents of nurses with graduate preparation to insure sufficient numbers of faculty for the implementation of the prior recommendation.

In a previous section it was reported that there are 189 nurses in Massachusetts between the ages of 25 and 50 years with at least a master's degree who are currently unemployed. Although not all will be interested in teaching, many may be. Some of those interested will not have had education courses and student teaching experience, but this should not be considered a major deterrent since there is no evidence that such preparation is essential for effective teaching.

Expansion of part time employment possibilities in education might increase the attractiveness of teaching positions. In addition the professional nursing association which has heretofore focused most of its programs on the return of nurses to positions in practice settings should now also direct its programs toward the encouragement and preparation of some of these inactive nurses for teaching positions. This may be done, for example, by offering regional workshops focusing on pedagogical values and skills as well as nursing content for nurses with graduate preparation who want to return to teaching or who want to enter it as a new field of practice or who want to acquire skills necessary to transfer to a new type of program.

Curriculum patterns and relationships between schools of nursing must be re-examined in search of ways to use the talents of current faculty members more effectively. Many nursing faculty have nine month appointments. There is, therefore, an available pool of teaching talent which is currently being under-utilized. This is a rich source for all schools of nursing, but especially for new schools, which are trying to establish curriculum and adequate teaching staff in the midst of a serious faculty shortage. If these schools would offer nursing courses in the summer session as is customary in the arts, sciences and education, they could draw on nursing faculty from other institutions. The abundancy of clinical facilities available during the summer further emphasizes the feasibility of expanding the nursing courses offered at this time of year.

In addition courses which are currently being offered in only one or two baccalaureate or masters' programs due to the limited number of faculty prepared in a special area, such as rehabilitation, gerontology or mental retardation, should be made available to students enrolled in all such nursing programs. Selected courses in the nursing curriculum of every college and university based nursing program should be open to students from other nursing schools and, under some circumstances, other nursing programs. The maximum number of exchange credits should be specified and students should be encouraged to have some learning experiences with students in other schools of nursing and types of programs.

At the same time that consideration is being given to ways to reactivate currently unemployed nurses with graduate preparation and to more effectively use the scarce faculty resources, attention must be directed toward analysis of the present distribution of faculty with graduate preparation across the different types of nursing education programs.

This report has given high priority to the expansion of graduate and baccalaureate programs. It has emphasized that no significant expansion can occur without the availability of additional faculty prepared at the graduate level. It also has been emphasized that nursing's future depends on our ability to break this cycle. At this point we must ask if the present nursing education system is organized so the talents of each individual are being used appropriately and to the fullest extent. Under conditions of such serious shortage of prepared faculty do we not have to set priorities for their proper use? Is this not common practice in other fields where there are differences in levels of preparation? Must we not make certain that our scarcest resource — the prepared nurse faculty member — is not in a position which could be filled by an individual with less preparation?

The intent is not to coerce or to eliminate individual choice but: (1) to indicate that a partial solution to the problem could be accomplished be a shift in the distribution of faculty with master's level preparation; (2) to emphasize that we all are dependent on the preparation of an adequate number of faculty for all the schools of nursing in this state; (3) to encourage faculties and nursing education administrators to join in a serious examination of this issue.

②

6. A TEMPORARY DELAY IN THE ESTABLISHMENT OF NEW NURSING PROGRAMS AT LESS THAN THE BACCALAUREATE LEVEL.

The imbalance in the levels of preparation of nursing personnel in this state has been singled out in this report as the major problem and the recommendations are directed toward achieving a better balance by increasing the number of nurses with baccalaureate and masters' preparation. This is necessary both to supply faculty for all types of programs, and to provide the leadership in nursing service which will permit proper utilization of personnel with less preparation and the examination of new procedures for more effective delivery of health services. Until this balance is achieved none of the personnel or financial resources needed to accomplish this objective should be drained off into new programs at the associate degree, the diploma or practical nursing levels.

All existing programs, especially those in the community colleges, should have maximum enrollment before consideration is given to any additional programs. It is suggested that the miminum enrollment in each class in a community college nursing program should be at least 100 students. A lower number is impractical since it will result in inefficient use of the limited numbers of prepared nurse faculty and will not meet the demands within the community for education of future nurses.

7. IMPROVEMENT OF RECRUITMENT, APPLICATION AND ADMISSION PROCEDURES

The current situation, characterized by a large number of unfilled positions and a large number of interested and "qualified" individuals not enrolled in schools of nursing, an average attrition rate of approximately 30% and multiple applications across types of nursing programs is obviously not functioning effectively for either the individuals, the profession or the community. A different approach to all these areas is necessary.

The following recommendations are made: 1) the purpose and curriculum of each type of nursing program and the nature of each school be described in precise terms that are meaningful and useful to indivudials interested in a nursing career and to those assisting them in the selection of the appropriate program and school; 2) more cooperative relationships be established between the profession and high school counselors to insure that all, or nearly all those interested in a career in nursing obtain admission into an appropriate program; 3) the Board of Higher Education, in association with the professional organization and schools of nursing, initiate a computer program which will identify the schools to which an individual has applied, record the outcome of the application and report this information to the schools involved; 4) the schools of nursing adopt procedures to use this information, not to eliminate freedom of choice for the individual, but to accelerate the decision making process so the true number of individuals expected as enrollees can be determined as early as possible, thus providing the opportunity of a nursing education to a maximum number of individuals and the best possibility of filling all the positions in schools of nursing in the state; 5) admission criteria be expanded to permit individuals with assets not accurately measured by current testing procedures, to have an opportunity to achieve their objective; 6) a systematic study of "drop-outs" be undertaken to identify the causes and suggest changes in admission criteria and/or other procedures which might reduce this attrition.

8. Initiation of Community Planning for Nursing Education

As regional areas begin to offer a wider range of nursing education opportunities through the addition of associate and baccalaureate degree programs, the need for cooperative planning becomes imperative if all resources are to be used most economically and efficiently for the community.

Library and dormitory facilities are obvious examples of facilities which could be used by students attending different schools of nursing within an area. Provision of dormitory space is crucial if individuals in this state are to take advantage of opportunities for a nursing education in the community and state college systems. This is especially relevant to the community colleges programs which are committed to providing opportunities for "late bloomers" and individuals with deficient secondary preparation. Many of these students come from home situations which are not conducive to study and who need a more advantageous environment if they are to direct their fullest energy to their education.

If housing is not available for these students in nursing programs in community colleges and, at the same time, there is a decrease in the number of diploma schools where housing has been available, a large segment of this state's population who are ineligible for a baccalaureate program will have limited opportunities to realize their aspirations.

It is, therefore, recommended that the housing policy of the community college system be re-examined with special attention directed toward its effect on students from the urban centers. It is also recommended that the libraries of schools of nursing in an area be made available to students attending all nursing schools in that area.

In addition, nurses in education and practice must plan for a very different use of the available clinical facilities in an area. Equal utilization of these facilities over the calendar year is quite clearly the most obvious suggestion for providing excellent learning opportunities for a larger number of nursing students. At the same time, however, it is clear that a more fundamental change must occur within the clinical part of the curriculum. While it is necessary in some instances to assign students to the same clinical facility on different days or different times of day, it is not necessary at all times and, indeed, it may be undesirable to do so. Some opportunity must be available during the various clinical experiences for students from different types of programs to work and learn together. The need for this is increasingly apparent. Cooperative working relationships among nursing service personnel are the foundations of an effective, contemporary nursing service. This means that each client's care is planned and carried out by a nursing staff in which each individual's contribution is appropriate to her education and experience. Yet persons who are expected to perform in this way have had no opportunity to learn how to do so; on the contrary it has seemed as if efforts have been directed toward preventing such experiences. It is recommended, therefore, that all schools of nursing in an area designate a certain portion of the clinical curriculum in which students from different types of programs will be assigned to the same patients and/or families and discussions regarding the care of these patients willl be carried out with students and faculty from these different programs.

9. DEVELOPMENT OF NEW TRANSFER POLICIES AND PROCEDURES BETWEEN THE COMMUNITY AND STATE COLLEGES.

a. For Students in the Nursing Programs

Hopefully, implementation of several of the prior recommendations will reduce the number of individuals accepted into programs not completely congruent with their ability or career goals. It can be expected, however, that there will always be some individuals who initially willl not enter the most appropriate program. Many of these students will either wish to transfer into another program or upon its completion will desire to undertake a higher level program.

The data indicate that the highest percentage, although not the largest number of individuals, desiring additional preparation are graduates of associate degree programs. A much smaller percentage, although a much larger number of individuals, desiring further education are graduates of diploma programs. Although no data are available on the number of transfers from one type of program to another prior to completion of the original program, it is believed to be small. Customarily this movement seems to occur upon completion of the initial program. As has been pointed out in the discussion of the "R.N. students," this is a most wasteful and unsatisfactory situation because only a small portion of the credits accumulated in the original program are accepted by the senior college or university.

If a student is acceptable as a baccalaureate candidate upon completion of either an associate or a diploma program, she probably was acceptable at some time prior to the completion of that program. With the expansion of nursing programs within the public higher education system, the opportunities for developing new transfer procedures will also expand. The need for new approaches will increase rapidly if the community colleges admit large numbers of urban students whose ability and career goals are not easily assessed by the measurement procedures currently in use. Many of these students have the potential for a baccalaureate program. In many instances this potential will be identifiable after 6 months or a year in a community college.

It is recommended that the nursing programs in the community and state colleges establish a transfer policy for students after one year of preparation. To implement such a policy, procedures must be set up to: 1) identify students with the potential and desire for baccalaureate preparation; 2) to counsel them to this effect; 3) to assist them in making this transfer.

b. For Students in the Liberal Arts Transfer Program

A marked increase in the enrollment in the transfer liberal arts program in the community colleges is anticipated. If nursing is to capitalize on this additional source of baccalaureate nursing candidates some changes must be made in the present curriculum patterns of the baccalaureate programs.

Consideration should be given to beginning the nursing major in the junior year. Should two academic years be insufficient to accomplish the objectives of the nursing program, summer sessions could be included. Until this or a similar pattern could be implemented the nursing courses which presently are included in the first two years of the baccalaureate curriculum should be available during the summer session for students wishing to transfer from the community college liberal arts program to a baccalaureate nursing program.

REFERENCES

Annual Report. Commonwealth of Massachusetts Board of Registration in Nursing, 1966.

Facts About Nursing. New York: American Nurses Association, 1962–1963.

Facts About Nursing. New York: American Nurses Association, 1967.

Howard, Anne T. and Apple, Dorrian. *Nursing Needs and Resources in Massachusetts, 1960.*

1966 Inventory of Registered Nurses — Summary of Data for Massachusetts. Report of ANA Research and Statistics Department.

Report of the National Advisory Commission on Health Manpower. Vol. 1, Washington, D. C., 1967.

Toward Quality in Nursing, Needs and Goals. Report of the Surgeon General's Consultant Group on Nursing. U. S. Department of Health, Education, and Welfare, Public Health Service, February, 1963.

BIBLIOGRAPHY

Brown, Ray E. *Report of Survey of Nursing Education in North Carolina.* North Carolina Board of Higher Education, Medical Care Commission and State Board of Education, July, 1964.

Deyo, Donald E. *Access to Quality Community College Opportunity. A Master Plan for Massachusetts Community Colleges Through 1975.* May, 1967.

Dillman, Everett G. *New Mexico Nursing Needs and Resources: The Situation.* A New Mexico Business Reprint, November, 1964.

Lande, Sylvia. *Nursing Care Perceptions Among High School Students.* Nursing Research, Vol. 15, No. 4. Fall, 1966. Pages 337-342.

Leone, Lucille Petry. *Statewide Planning for Nursing Education.* Southern Regional Education Board, 1967.

Manpower Resources in Hospitals 1966: Summary Report of a Survey Conducted by the Bureau of Health Manpower, Public Health Service. Department of Health, Education and Welfare and the American Hospital Association.

Massachusetts Populations Projection to 1975. Prepared by Program Planning and Research, The Executive Office for Administration and Finance, August, 1967.

Mental Health for Massachusetts. The Report of the Massachusetts Mental Health Planning Project, 1965.

The Nation's Nurses, The 1962 Inventory of Professional Registered Nurses. Prepared by Eleanor D. Marshall and Evelyn B. Moses. American Nurses Association Research and Statistics Program, 1965.

Nursing Education Programs Today. National League for Nursing, Division of Nursing Education, 1961.

Preliminary Report: Survey of Professional Nurses and Practical Nurses with Active Massachusetts Registrations and Licenses. Prepared by: Research Department, Economic Research and Special Reports, November, 1966.

Operation Decision Community Planning for Nurses in the West: Annual Conference of the Western Region Council of State League for Nursing. National League for Nursing, January, 1967.

Scott, Jessie M. *Three Years With The Nurse Training Act.* American Journal of Nursing, Vol. 67, No. 10. October, 1967. Pages 2, 107–2, 109.

Today and Tomorrow in Western Nursing. Western Interstate Commission for Higher Education, April, 1966.

Trends of Enrollments in Basic Professional Nursing Programs in New York State. The University of the State of New York Division of Research in Higher Education, the State Education Department, Division of Professional Education, Spring, 1964.

Appendix A

The Commonwealth of Massachusetts
BOARD OF HIGHER EDUCATION
Fourteenth Floor
182 Tremont Street
Boston, Massachusetts 02111

August 16, 1967

Dear School of Nursing Director:

The Commonwealth of Massachusetts, through the Board of Higher Education, recognizes its responsibility for planning and coordinating programs in nursing to insure an adequate and balanced supply of nurses within the state. Chancellor Richard Millard has appointed an advisory committee on nursing education which recommended a statewide study of nursing.

From the enclosed questionnaire we hope to gain information which otherwise would be unavailable. Please be assured that information you supply will be considered confidential. Your school will not be identified in the published reports without the expressed consent of responsible persons within your school or institution. Your prompt response to the questionnaire is needed and will be appreciated.

Sincerely yours,
(Mrs.) Marita Tribou
Interim Director
Study on Nursing Education

Appendix B

The Commonwealth of Massachusetts
BOARD OF HIGHER EDUCATION
Fourteenth Floor
182 Tremont Street
Boston, Massachusetts 02111

MEMORANDUM

August 16, 1967

To: Hospital Administrator

From: The Advisory Committee on Nursing Education
The Board of Higher Education
The Commonwealth of Massachusetts

A questionnaire has been mailed to directors of diploma programs in nursing requesting information about the schools. Hopefully the questionnaire will provide pertinent data for a statewide study of nursing education which the Board of Higher Education has currently underway.

Although the Board of Higher Education's major concern is with collegiate education, we are also concerned with the future plans of diploma schools as a basis for coordinating the various programs to insure adequate nurse power to meet the health needs of the people of Massachusetts.

Appendix C

THE COMMONWEALTH OF MASSACHUSETTS

THE BOARD OF HIGHER EDUCATION

ADVISORY COMMITTEE ON NURSING EDUCATION

Questionnaire for Associate Degree Programs in Nursing

PART I — General Information — "The Present Situation"

A. Enrollment and Attrition

Maximum Possible Enrollment — with present facilities and if all budgeted faculty positions are filled or could be filled.

........................First year ....Second year

Current Enrollment — Those now enrolled or about to enter.

........................Class graduating in 1967 (Those graduated or expected to complete the program within this calendar year.)

........................Class graduating in 1968

........................Next class entering — September 1967 (to date)

Attrition Rate — Please estimate as accurately as possible. We realize that some drop out and then re-enter, while others transfer in.

........................Graduating class — 1967

........................Class entered — 1966

........................Class entered — 1965

B. *The Graduating Class* (All those completing program within calendar year — 1967)

........................Number planning to work on one of the affiliating agencies.

........................Number planning to work within a 20 mile radius of the school — but not in affiliating agency.

........................Number known to be seeking admission to a post RN baccalaureate program.

.......................Number indicating interest in further education but not actually seeking admission at this time.

.......................Number planning to leave the state after graduation.

.......................Number who say plans uncertain or not known.

.......................Number indicating other plans (Please specify).

C. *The Class Entering* — Fall semester 1967

.......................Total number of applications reviewed.

.......................Number of applicants refused admission.

.......................Number of applicants (to date) who have withdrawn after acceptance.

.......................Number of applicants interviewed.

Reasons Given by candidates for *withdrawing after acceptance.* (Please check the three most common.)

.......................Accepted in another associate degree program in nursing.

.......................Accepted in a baccalaureate program in nursing.

.......................Decided to go to a diploma program.

....Decided to go to a practical nurse program.

.......................Getting married.

.......................Changed mind — entering another career or vocation.

.......................No reason given.

If you counseled applicants not accepted for the next class, please check the three most common suggestions offered.

....Consider another associate degree program in nursing.

.......................Consider some other vocation or career.

.......................Take additional study and apply later.

.......................Apply to a diploma program.

.......................Apply to a practical nurse program.

……………………Consider a baccalaureate degree program.

……………………Contact some central agency (such as UCS — Mrs. Ryan)

……………………Other — (please specify)

If you did not counsel applicants refused admission — please explain reason.

Note see attached sheets for scholastic aptitude for class entering in 1967.

D. *Faculty*

Budgeted Unfilled Nurse Faculty Positions

Please indicate full or part time and give number and nature of positions.

Part II Future Plans and Projections

A. *Projected Admissions* — Please fill in approximate figures

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Admissions									

B. *Projected Plans* — Please check most probable course of action approximate date.

1968	1969	1970	1971	1972	1973	1974	1975	1980
Hold constant to present situation								
Undertake study to determine action								
Expand enrollment								
Other — please specify								

C. If you desire to expand your school, please indicate additional needs.

Faculty — Numbers and types

Clinical Facilities — including community health services

Facilities — such as library, housing, classrooms, etc.

D. Do you know of any studies — ongoing, completed or planned for, concerning nursing needs and goals in your geographical area? If so, please list contact persons and nature of study.

E. Do you know of any committees — planned or operating in relation to the future plans for nursing schools in your area? If so, please list contact persons.

F. Any comments you can make concerning plans for you school in relation to other community agencies or schools in your area will be useful and appreciated.

Scholastic Aptitude and Residence Area — for class entering — 1967. Please list all those. We realize that there may be changes later:

Student by Name	*Age*	*Home Town or City and State*	*Rank in High School*	*SAT-CEEB Verbal Math*	*NLN Science Comp*	*Other Test Used (Scholastic)*

Scholastic Aptitude and Residence Area — for all students who applied for the September 1967 class but who are not attending, irrespective of reason.

Student by Name	*Age*	*Home Town or City and State*	*Rank in High School*	*SAT-CEEB Verbal-Math*	*NLN Science Comp*	*Other Test Used (Scholastic)*

CURRENT FACULTY

Clinical Field	*Highest Degree*	*Clinical Field*	*Highest Degree*

Name of Agency	*Type of Clinical Experience*	*Time of Year Students Assigned (Winter, Spring, Summer, Fall)*

Appendix D

The Commonwealth of Massachusetts
THE BOARD OF HIGHER EDUCATION
ADVISORY COMMITTEE ON NURSING EDUCATION

Questionaire For Baccalaureate Degree Programs in Nursing

PART I. The Present Situation

Maximum Possible Enrollment — with present facilities and all budgeted faculty positions filled.

First year........... Second year........... Third year........... Fourth year...........

Fifth year...........

A. *The Basic Undergraduate Student* (Please do not include information for R.N. students, this is requested on page 6)

1. *Enrollment and Attrition* (Do not include R.N. students)

	1st year	*2nd year*	*3rd year*	*4th year*	*5th year*
No. admitted	....	....	....	....	....
No. Currently enrolled	....	....	....	....	....

2. *1967 Graduating Class* (Do not include R.N. students)

(a) *Geographical Distribution*

........................Number who planned to work in one of the affiliating clinical agencies.

........................Number who planned to work within 20 miles radius of the school, but nor in an affiliating agency.

........................Number known to be seeking admission or to have been admitted into a graduate program in nursing.

……………………Number known to be seeking admission or to have been admitted into a graduate program in a discipline other than nursing.

……………………Number who planned to leave the state after graduation.

……………………Number who planned to join one of the military services or to work overseas.

……………………Number whose plans were uncertain or unknown.

……………………Number who indicated plans other than those listed above (Please specify).

(b) *Clinical Work Setting*

Number who planned to work in:

……………………General Medical-Surgical Hospital
……………………Public Health Agency
……………………Maternity Clinic, Ward or Hospital
……………………Pediatric Clinic, Ward or Hospital
……………………Nursing Home
……………………Psychiatric Clinic, Ward or Hospital
……………………General Medical-Surgical Outpatient Department
……………………Chronic Disease Hospital
……………………Rehabilitation Clinic, Ward or Hospital
……………………Community Health Center
……………………Other (Please specify)

(c) *Type of Position*

Number who planned to accept position as:

……………………Staff nurse
……………………Head nurse
……………………Supervisor

........................Instructor

........................Other (Please specify)

3. *September 1967 entering class* (Please do not include R.N. Students)

(a) Applications

........................Total number of applications reviewed

........................Number of applicants who were refused admission

........................Number of applicants who withdrew after acceptance

........................Number of applicants interviewed

(b) Withdrawals

Please check three most common reasons given by applicants for withdrawing after acceptance

........................Decided to attend another baccalaureate degree program in nursing

........................Decided to attend an associate degree program in nursing

........................Decided to attend a diploma program in nursing

........................Decided to enter another career

........................Unable to meet financial obligations

(c) Non-acceptances

Please check the three most common suggestions offered to applicants who were not accepted.

........................Consider a different baccalaureate nursing program

........................Consider an associate degree program in nursing

........................Consider a diploma program in nursing

........................Take additional prepatory studies and reapply

........................Contact another organization for guidance and assistance (ODWIN, UCS, Mass. Nurses Association, Mass. League for Nursing)

........................Consider some other type of career

........................Other (Please specify)

If counseling is not done please indicate the procedure used to notify student of non-acceptance.

Were any qualified students not accepted because of lack of space?

.....................................Yes ....No

If Yes, how many? ....

Scholastic and Residential Information for students who enrolled as freshman in September '67

Name	*Age*	*Home Town or City & State*	*Rank in High School*	*SAT-CEEB Verbal-Math*	*Scores on Other Tests*

SCHOLASTIC AND RESIDENTIAL INFORMATION FOR ALL STUDENTS WHO *APPLIED* BUT *WHO DID NOT ENROLL* AS FRESHMAN IN September 1967, irrespective of reason — ex. non-acceptance, withdrew, etc.

Name	*Age*	*Home Town, or City and State*	*Rank in High School*	*SAT-CEEB Verbal-Math*

B. The R.N. undergraduate student

1. Enrollment and attrition

	1st year	*2nd year*	*3rd year*	*4th year*	*5th year*
No. admitted	....	....	....	....	....
No. currently enrolled	....	....	....	....	....

2. 1967 Graduates

(a) *Geographical Distribution*

........................Number who planned to work in one of the affiliating clinical agencies

........................Number who planned to work within 20 mile radius of the school, but not in an affiliating agency

........................Number known to be seeking admission or to have been admitted into a graduate program in nursing

........................Number known to be seeking admission or to have been admitted into a graduate program in a discipline other than nursing

........................Number who planned to leave the state after graduation

........................Number who planned to join one of the military services or to work overseas

........................Number whose plans were uncertain or unknown

........................Number who indicated plans other than those listed above (Please specify)

(b) *Clinical Work Setting*

Number who planned to work in:

........................General Medical-Surgical Hospital

........................Public Health Agency

........................Maternity Clinic, Ward or Hospital

........................Pediatric Clinic, Ward or Hospital

........................Nursing Home

........................Psychiatric Clinic, Ward or Hospital

........................General Medical-Surgical Outpatient Department

........................Chronic Disease Hospital

........................Rehabilitation Clinic, Ward or Hospital

........................Community Health Center

........................Other (Please specify)

(c) *Type of Position*

Number who planned to accept positions as:

........................Staff nurse
........................Head nurse
........................Supervisor
........................Instructor
........................Other (Please specify)

3. September 1967

(a) Applications

........................Total number of applications received
........................Number of applicants who were refused admission
........................Number of applicants who withdrew after acceptance
........................Number of applicants interviewed

(b) Usual reasons given by applicants for withdrawing after acceptance.

(c) Usual reasons for School of Nursing not accepting an applicant.

(d) Please indicate the type of placement procedure used in relation to the R.N. applicant. Please be as specific as possible.

Scholastic and Residential Information for R.N. students who enrolled in the school of nursing for first time in September 1967

Name	*Age*	*Home Town City & State*	*Diploma Prgoram Attended*	*SAT-CEEB Verbal-Math*	*Scores on Other Scholastic Tests*

Scholastic and Residential information for all R.N. applicants who did not enroll in the School of Nursing in September 1967, irrespective of reason, i.e. rejection, changed mind, etc.

Name	*Age*	*Home Town City & State*	*Diploma Program Attended*	*SAT-CEEB Verbal-Math*	*Scores on Other Scholastic Tests*

PLEASE COMPLETE THE FOLLOWING REGARDING NURSE-FACULTY MEMBERS CURRENTLY ASSIGNED TO THE UNDERGRADUATE DIVISION

Content Area	*Highest Degree*	*Content Area*	*Highest Degree*

C. *Faculty*

(2) If there currently are any budgeted unfilled nurse-faculty positions, please complete the following.

Content Area	*Full Time Vacancies*	*Part Time Vacancies*

D. Clinical Facilities

(2) Please complete the following for all clinical agencies currently affiliated with your school.

Name of Affiliating Agency	*Type of Clinical Experience*	*Time of Year Used Winter, Fall, Spring, Summer*

(2) If currently additional clinical facilities are needed, please complete the following:

Type of Clinical Facility Needed	*Number of Students per Rotation for Each Area of Need*
Medical	
Surgical	
Medical-Surgical Maternity	
Pediatric	
Public Health	
Psychiatrics	
Mental Health	
Chronic Illness	
Rehabilitation	
Other (Specify)	

PART II. Future Plans and Projections

A. *Projected Admissions*

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Admissions									

B. If you are planning to expand your school, please indicate additional anticipated needs

1. *Faculty*

Content Area	*F.T.*	*P.T.*

2. *Clinical Facilities*

Type of Facility Needed	*Number of Students per rotation for each area of need*
Medical	
Surgical	
Medical-Surgical	

Maternity..

Pediatric..

Public Health..

Psychiatrics..

Mental Health..

Chronic Illness..

Rehabilitation..

Other (Specify)..

3. On Campus Facilities needed such as library, dormitories, offices, classrooms, etc.

C. General Information

1. Do you know of any ongoing, completed or planned studies concerning nursing needs and goals in your geographical area? If so, please list contact persons and nature of the study.

2. Do you know of any committees (planned or operating) which are or will be studying future plans for nursing schools in your geographical area? If so, please list contact persons.

3. Does your school have any plans for establishing a nursing program for individuals holding a bachelor's degree with a major other than nursing?

   Yes.................................... No..................................

   If yes, please indicate present state of these plans.

4. Do you know of any college or university in Massachusetts which is contemplating the establishment of a nursing program for individuals holding a bachelor's degree with a major other than nursing?

   Yes.................................... No..................................

   If yes, please list name of contact person.

5. Do you know of any college or university in Massachusetts which is contemplating the establishment of a basic undergraduate school of nursing? Yes.................................... No......................................

   If yes, please list name of contact person.

Appendix E

THE COMMONWEALTH OF MASSACHUSETTS

THE BOARD OF HIGHER EDUCATION

ADVISORY COMMITTEE ON NURSING EDUCATION

Questionnaire for Diploma Programs

PART I — General Information — "The Present Situation"

A. *Enrollment and Attrition*

Maximum Possible Enrollment — with present facilities and if all *budgeted* faculty positions are filled — or could be filled.

..................First year ....Second year ....Third year

Current Enrollment — Those now enrolled or about to enter.

........................Graduating class — 1967 ....Class entered 1966

........................Class entering — 1967
(as indicated to date) ....Class entered 1965

Attrition Rate — Please estimate numbers as accurately as possible. We realize that some drop out and then re-enter, while others transfer in.

........................Class graduating — 1967 ....Class entered 1966

........................Class entered — 1965

B. *The Graduating Class — 1967*

........................Number (to date) planning to work at home school hospital.

........................Number indicating plans for working within a 20 mile radius of the school.

........................Number known to be seeking admission to a post RN baccalaureate program in Massachusetts either full or part-time.

........................Number indicating interest in further education but not actually seeking admission at this time.

........................Number planning to leave the state after graduation.

........................Number who say plans uncertain or not known.

........................Number indicating other plans not listed — please *comment in space below.*

C. *The Class Entering — 1967*

........................Total number of *applications reviewed.*

........................Approximate number of *applicants interviewed* — whether entering or not.

........................Number of *applicants refused* admission.

........................Number of *applicants* (*to date*) *that have withdrawn* after acceptance.

Reasons Given by candidates for *withdrawing after acceptance.* Please check the three most common.

........................Accepted in an associate degree program in nursing.

........................Accepted in another diploma program.

........................Entering a collegiate nursing program. (BS)

........................Entering a practical nursing program.

........................Changed mind — entering another career or vocation.

........................Getting married.

........................No reason given.

........................Other (please explain).

Counseling and Referrals — for applicants refused admission — 1967.

If you counseled applicants not accepted, please check the three most common suggestions you offered.

........................Consider a practical nursing program.

........................Consider some other vocation or career.

........................Take additional study and apply again later.

........................Apply in another diploma program.

........................Consider a collegiate program.

.........................Contact some central agency (such as UCS — Mrs. Ryan).

.........................Other (please specify).

If you did not counsel applicants — Please give reason.

Note: See attached sheets for scholastic aptitude — class entering.

D. *The Faculty*

Budgeted Unfilled Nurses' Faculty Positions — Please indicate numbers for each category — full time and part time.

Ft	*Pt*		*Ft*	*Pt*	
....	....	Nursing Fundamentals	....	....	Maternity Nursing
....	....	Medical Nursing	....	....	Psychiatric Nursing
....	....	Surgical Nursing	....	....	O P D
....	....	Emergency	....	....	I C U

E. *Clinical Facilities* — Please indicate approximate number of students per year according to rotation period.

	Need additional	*Could accommodate more*
Medical	....	....
Surgical	....	....
Maternity	....	....
Pediatrics	....	....
O P D	....	....
Emergency	....	....
I C U	....	....
Long term illness	....	....
Other (please specify)	....	....

Part II — Future Plans and Projections

A. *Projected Admissions* — Please fill in approximate figures.

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Admissions									

B. *Projected Plans* — Please check the most probable course of action and approximate date.

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Hold constant to present situation									
Decrease admissions									
Cease admissions									
Close school									
Join with other school/s in area									
Undertake study									
Change to practical nursing program									
Offer facilities to practical nursing program									
Offer facilities to Assoc. Degree Program									
Offer facilities to Baccalaureate Program									
Expand enrollment									
Other (please specify)									

C. Do you know of any studies — ongoing, completed or planned for, concerning nursing needs and goals in your geographical area? If so, please list contact persons and nature of study.

D. Do you know of any committees — planned or operating in relation to the future plans for nursing schools in your area? If so, please list contact persons.

E. If you desire or plan to expand your school and increase enrollment, please indicate *additional faculty* needed, numbers and types.

Additional clinical facilities — including community health services.

Additional facilities such as: — library, housing, classroom, etc.

F. Any comments you can make concerning specific plans for your school in relation to other educational institutions in your area will be appreciated and useful.

G. If possible provide a brief statement concerning expansion, holding constant or phasing out of your school reflecting the views as expressed by the groups listed below.

Members of the Faculty

Alumane

The Hospital Administration

The Nursing Advisory Committee — or other comparable group having community representation

Others who have expressed opinions

Scholastic Aptitude and Residence Area — for class entering — 1967. Please list all those (to date) expected to enter. We realize that there may be changes later:

Student By Number	*Age*	*Home Town or City and State*	*Rank in High School*	*SAT-CEEB Verbal-Math*	*NLN Science Comp.*	*Other Test Used (Scholastic)*

SCHOLASTIC AND RESIDENTIAL INFORMATION FOR ALL STUDENTS WHO *APPLIED* BUT *WHO DID NOT ENROLL* AS FRESHMAN IN September 1967, irrespective of reason — ex. non-acceptance, withdrew, etc.

Name	*Age*	*Home Town, or City and State*	*Rank in High School*	*SAT-CEEB Verbal-Math*

CURRENT FACULTY

Clinical Field	*Highest Degree*		*Clinical Field*	*Highest Degree*

Name of Agency	*Type of Clinical Experience*	*Time of Year Students Assigned (Winter, Spring, Summer, Fall)*

Appendix F

THE COMMONWEALTH OF MASSACHUSETTS

THE BOARD OF HIGHER EDUCATION

ADVISORY COMMITTEE ON NURSING EDUCATION

Questionnaire for Practical Nursing Programs

PART I — General Information — The Present Situation

A. Enrollment

........................Number of classes entering in calendar year (1967).

........................Total number of students entered in 1967

........................Number of students expected (to date) for the next class entering.

........................Date for next class to enter.

........................Number of students graduated and graduating during calendar year 1967.

B. *Attrition Rate* — Please estimate as accurately as possible. We realize that some drop out and some re-enter.

...............% rate for last class graduated

...............% rate for last two classes entered

...............%

C. Next class entering

........................Total number of applications reviewed

........................Number expected (to date) to enter

........................Number of applicants refused

........................Number who withdrew after acceptance

........................Number of applicants on "waiting list"

Reasons given for withdrawing after acceptance

Please check the three most common.

........................Accepted in another practical nurse program
........................Entering a diploma program
........................Entering an associate degree program in nursing
........................Changed mind — entering another vocation
........................Getting married
........................Want to go to a school with residence facilities
........................Financial need
........................No reason given
........................Other (please specify)

If you counseled applicants not accepted, please check the three most common suggestions offered.

........................Consider some other vocation.
........................Consider another type of practical nurse program.
........................Consider a diploma program in nursing.
........................Consider an associate degree program in nursing.
........................Take additional study and apply later.
........................Consider taking a course for nurse's aide.

If you did not counsel applicants, please give reason.

D. The Graduating Classes for 1967 — those graduated and those who will be graduating within calendar year.

........................Number planning to work in one of the affiliating agencies.

........................Number indicating plans to work within a 20 mile radius of the school — but not in affiliating agency.

........................Number planning to leave the state.

........................Number who plan to work in a doctor's office.

........................Number who plan to work in a nursing home.

........................Number indicating plans to work in a home care facility — (please specify types).

........................Number who say plans uncertain.

........................Number indicating other plans — (please specify).

E. The Faculty — *Budgeted* unfilled nurse faculty positions.

................................Full time ....Part time

F. Clinical Facilities — *please indicate additional areas of need* in terms of students per rotation.

................................Medical	................................Maternity
................................Surgical	................................Pediatric
................................Fundamentals	................................Geriatric or long term illness

Do you use clinical areas during evening or night periods for student experiences — please explain.

PART II — Future Plans and Projections

A. *Projected Admissions* — Please fill in approximate figures.

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Admissions									

B. Projected Changes — Please indicate approximate year and probable changes.

	1968	*1969*	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*	*1980*
Change to 12 month plan									
Increase Enrollment substantially									
Move to new building in same area									
Move to different location									
Other — please specify									

C. Please comment on any changes in cirriculum you think advisable to consider such as additional experiences in home care facilities — community agencies — or any experiences that might be omitted.

D. Do you know of any studies — ongoing, completed or planned for, concerning nursing needs and goals in your geographical area. If so, please list contact persons and nature of study.

E. Do you know of any committees — planned or operating in relation to the future plans for nursing schools in your area? If so, please list contact persons.

F. If you desire or plan to expand your school and increase enrollment, please indicate *additional faculty needed*, numbers and types.

Additional clinical facilities — including community health services.

Additional facilities such as — library, housing, classroom, etc.

G. Any comments you can make concerning specific plans for your school in relation to other educational institutions or clinical facilities in your area will be appreciated and useful.

Scholastic Aptitude Age and Residence Area — for next class entering. Please list all those (to date) expected to enter. We realize that there may be changes.

Student by Name	*Age*	*Home Town or City and State*	*Score on GATB*	*NLH if used*	*Other Tests (Scholastic)*

Scholastic Aptitude Age and Residence Area — for all students who applied for the September 1967 class but who are not attending, irrespective of reason.

Student by Name	*Age*	*Home Town or City and State*	*Score on GATB*	*NLN if Used*	*Other Tests (Scholastic)*

CURRENT FACULTY

Clinical Field	*Highest Degree*		*Clinical Field*	*Highest Degree*

Name of Agency	*Type of Clinical Experience*	*Time of Year Students Assigned (Winter, Spring, Summer, Fall)*

Appendix G

APPROVED SCHOOLS OF NURSING IN THE COMMONWEALTH OF MASSACHUSETTS

Associate Degree Programs

Atlantic Union College, Department of Nursing
South Lancaster, Massachusetts 01561

Berkshire Community College, Department of Nursing
Lenox, Massachusetts

Bristol Community College
64 Durfee Street
Fall River, Massachusetts

Cape Cod Community College
Hyannis, Massachusetts

Lasell Junior College, Department of Nursing
1844 Commonwealth Avenue
Auburndale, Massachusetts 02166

Massachusetts Bay Community College, Department of Nursing
Boston, Massachusetts

Massasoit Community College
North Abington, Massachusetts

Newton Junior College, Department of Nursing
Washington Park at Walnut Street
Newtonville, Massachusetts 02160

North Shore Community College
3 Essex Street
Beverly, Massachusetts

Northeastern University College of Nursing (3 year program)
360 Huntington Avenue
Boston, Massachusetts 02115

Northern Essex Community College
Chadwick Street
Haverhill, Massachusetts

Quinsigamond Community College, Department of Nursing
251 Belmont St.
Worcester, Massachusetts 01605

Regional Community College at Greenfield, Department of Nursing
125 Federal Street
Greenfield, Massachusetts 01301

Baccalaureate Degree Programs

Boston College School of Nursing
140 Commonwealth Avenue
Chestnut Hill, Massachusetts 02167

Boston University School of Nursing
264 Bay State Road
Boston, Massachusetts 02215

Fitchburg State College Nursing Department
160 Pearl Street
Fitchburg, Massachusetts 01420

Northeastern University College of Nursing
360 Huntington Avenue
Boston, Massachusetts 02115

Simmons College of Nursing
300 The Fenway
Boston, Massachusetts 02115

University of Massachusetts School of Nursing
Amherst, Massachusetts 01003

Diploma Programs

Beverly Hospital School of Nursing
Herrick and Heather Streets
Beverly, Massachusetts 01915

Brockton Hospital School of Nursing
680 Centre Street
Brockton, Massachusetts 02402

Burbank Hospital School of Nursing
Nichols Road
Fitchburg, Massachusetts 01420

Catherine Laboure School of Nursing
2100 Dorchester Avenue
Dorchester, Massachusetts 02124

Children's Hospital School of Nursing
300 Longwood Avenue
Boston, Massachusetts 02115

City of Boston, Department of Health and Hospitals, School of Nursing
(Boston City Hospital)
710 Massachusetts Avenue
Boston, Massachusetts 02118

Cooley Dickinson Hospital School of Nursing
30 Locust Street
Northampton, Massachusetts 01060

Faulkner Hospital School of Nursing
1153 Centre Street
Boston, Massachusetts 02130

Framingham Union Hospital School of Nursing
85 Lincoln Street
Framingham, Massachusetts 01701

Henry Heywood Memorial Hospital School of Nursing
242 Green Street
Gardner, Massachusetts

Holyoke Hospital School of Nursing
575 Beech Street
Holyoke, Massachusetts

Lawrence General Hospital School of Nursing
1 Garden Street
Lawrence, Massachusetts 01842

Lawrence Memorial Hospital School of Nursing
170 Governor's Avenue
Medford, Massachusetts 02155

Leominster Hospital School of Nursing
Hospital Road
Leominster, Massachusetts 01453

Lowell General Hospital School of Nursing
295 Varnum Road
Lowell, Massachusetts 01854

Lynn Hospital School of Nursing
212 Boston Street
Lynn, Massachusetts 01904

Malden Hospital School of Nursing
Hospital Road
Malden, Massachusetts 02148

Massachusetts General Hospital School of Nursing
Fruit Street
Boston, Massachusetts 02214

Melrose Wakefield Hospital School of Nursing
585 Lebanon Street
Melrose, Massachusetts 02176

Memorial Hospital School of Nursing
119 Belmont Street
Worcester, Massachusetts 01605

Mercy Hospital School of Nursing
233 Carew Street
Springfield, Massachusetts 01104

Mount Auburn Hospital School of Nursing
330 Mount Auburn Street
Cambridge, Massachusetts 02138

New England Baptist Hospital School of Nursing
91 Parker Hill Avenue
Boston, Massachusetts 02120

New England Deaconess Hospital School of Nursing
185 Pilgrim Road
Boston, Massachusetts 02215

Newton Wellesley Hospital School of Nursing
2014 Washington Street
Newton Lower Falls, Massachusetts 02162

Peter Bent Brigham Hospital School of Nursing
721 Huntington Avenue
Boston, Massachusetts

Providence Hospital School of Nursing
206 Elm Street
Holyoke, Massachusetts 01040

Quincy City Hospital School of Nursing
114 Whitwell Street
Quincy, Massachusetts 02169

St. Anne's Hospital School of Nursing
243 Forest Street
Fall River, Massachusetts 02721

St. Elizabeth's Hospital School of Nursing
235 Washington Street
Brighton, Massachusetts 02135

St. Joseph's Hospital School of Nursing
Gage Street
Lowell, Massachusetts 01854

St. Luke's Hospital School of Nursing
101 Page Street
New Bedford, Massachusetts 02740

St. Luke's Hospital School of Nursing
333 East Street
Pittsfield, Massachusetts 01202

St. Vincent's Hospital School of Nursing
25 Winthrop Street
Worcester, Massachusetts 01604

Salem Hospital School of Nursing
81 Highland Avenue
Salem, Massachusetts 01970

Somerville Hospital School of Nursing
30 Crocker Street
Somerville, Massachusetts 02143

Springfield Hospital School of Nursing
759 Chestnut Street
Springfield, Massachusetts 01107

Sturdy Memorial Hospital School of Nursing
211 Park Street
Attleboro, Massachusetts 02703

Truesdale Hospital School of Nursing
1820 Highland Avenue
Fall River, Massachusetts 02720

Union Hospital School of Nursing
Highland Avenue and New Boston Road
Fall River, Massachusetts 02720

Whidden Memorial Hospital School of Nursing
103 Garland Street
Everett, Massachusetts 02149

Worcester City Hospital School of Nursing
26 Queen Street
Worcester, Massachusetts

Worcester Hahnemann Hospital School of Nursing
281 Lincoln Street
Worcester, Massachusetts 01605

Practical Programs

Addison Gilbert Hospital School for Practical Nurses
298 Washington Street
Gloucester, Massachusetts 01930

Beverly Hospital School of Practical Nursing
Herrick and Heather Streets
Beverly, Massachusetts 01915

Boston Trade High School for Girls
73 Hemenway Street
Boston, Massachusetts 02115

Brockton Vocational School
c/o Sprague School
50 Summer Street
Brockton, Massachusetts

Burbank Hospital School of Practical Nursing
Nicholas Road
Fitchburg, Massachusetts 01420

Cape Cod Hospital School of Practical Nursing
27 Park Street
Hyannis, Massachusetts

City of Boston Department of Health and Hospitals School of Practical Nursing (Boston City Hospital)
818 Harrison Avenue
Boston, Massachusetts 02118

David Hale Fanning Trade High School
Chatham and High Streets
Worcester, Massachusetts 01608

Diman Vocational School
45 Morgan Street
Fall River, Massachusetts 02720

Essex Agricultural and Technical Institute
Hathorne, Massachusetts

Gardner State Hospital School of Practical Nursing
P.O. Box 488
Gardner, Massachusetts

Haverhill Trade High School
Wingate Street
Haverhill, Massachusetts

Holy Ghost Hospital School of Practical Nursing
1955 Cambridge Street
Cambridge, Massachusetts 02138

Holyoke Trade High School
Holyoke, Massachusetts 01040

Lawrence Vocational School
60 Allen Street
Lawrence, Massachusetts 01842

Leominster Trade High School
Leominster, Massachusetts

Lowell Trade High School
John and Paige Streets
Lowell, Massachusetts

Massachusetts Department of Mental Health School of Practical Nursin
Middlesex Division
Metropolitan State Hospital
Waltham, Massachusetts

Massachusetts Department of Mental Health School of Practical Nursin
Norfolk Division
Foxboro State Hospital
Foxboro, Massachusetts

Massachusetts Department of Mental Health
School of Practical Nursing
Pioneer Valley Division, Northampton State Hospital
Northampton, Massachusetts

Charles H. McCann Regional Vocational High School
Hodges Cross Road
North Adams, Massachusetts

North Shore Babies and Children's Hospital School of Practical Nursing
Highland Avenue
Salem, Massachusetts 01970

Henry O. Peabody School for Girls
Peabody Road
Norwood, Massachusetts 02062

Pittsfield Vocational High School
Pittsfield, Massachusetts

Plymouth Vocational School
c/o Jordan Hospital
Plymouth, Massachusetts

Pondville Hospital School for Practical Nurses
P.O. Box 111
Walpole, Massachusetts 02081

Quincy Vocational Technical School
34 Coddington Street
Quincy, Massachusetts 02169

Lemuel Shattuck Hospital School of Practical Nursing
170 Morton Street
Jamaica Plain, Massachusetts 02130

Shepard-Gill School of Practical Nursing
222 Newbury Street
Boston, Massachusetts 02116

Smith's Vocational High School
80 Locust Street
Northampton, Massachusetts 01060

Soldier's Home School of Practical Nursing
100 Summit Avenue
Chelsea, Massachusetts 02150

Springfield Technical Institute
1300 State Street
Springfield, Massachusetts 01109

Taunton Vocational High School
24 North Pleasant Street
Taunton, Massachusetts

Tewksbury Hospital School of Practical Nursing
East Street
Tewksbury, Massachusetts

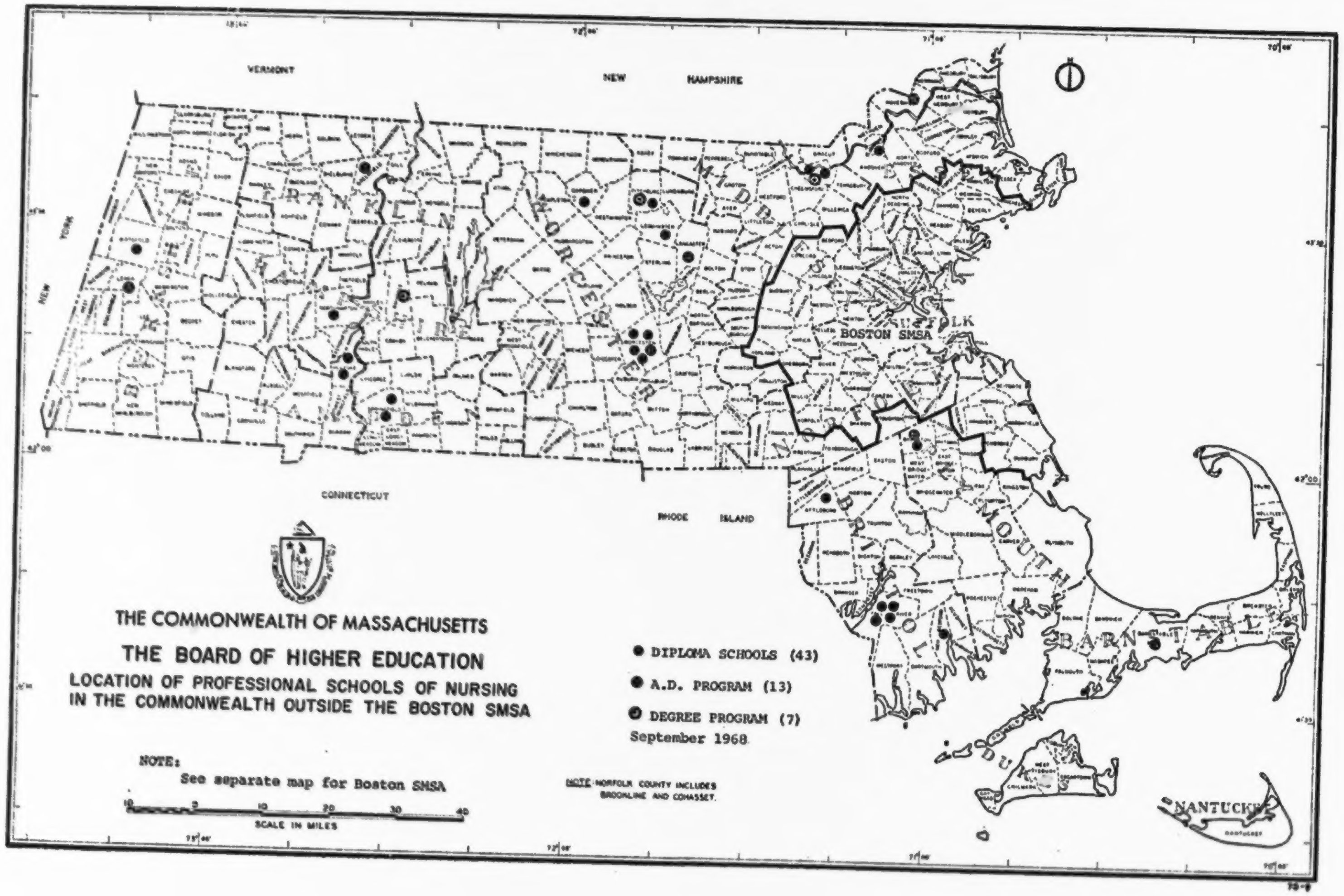
Waltham Trade High School
Hope Avenue
Waltham, Massachusetts 02154

Westborough State Hospital School of Practical Nursing
P.O. Box 288
Westborough, Massachusetts

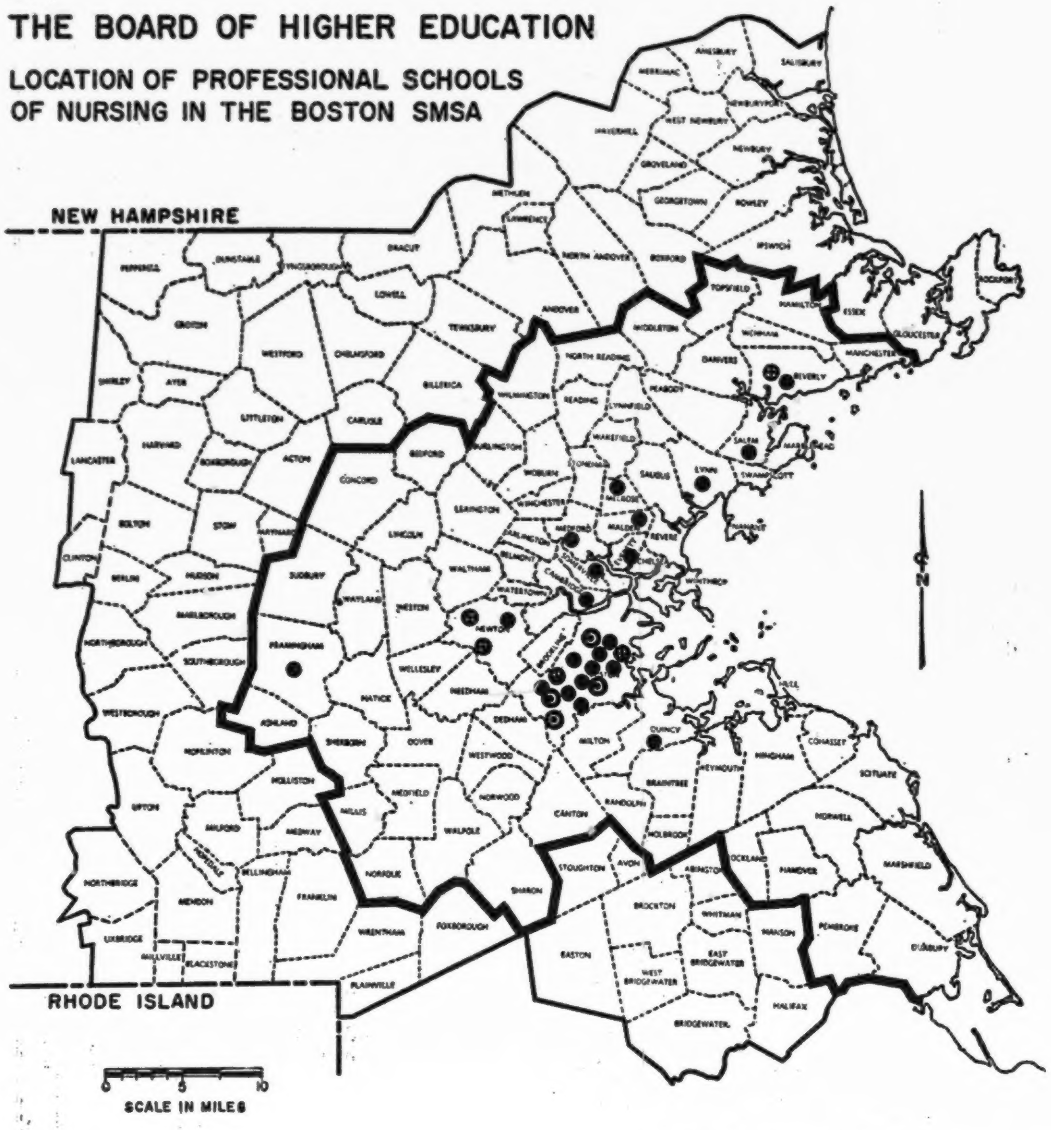
Western Massachusetts Hospital School for Practical Nurses
East Mountain Road
Westfield, Massachusetts

Winthrop Community Hospital School for Practical Nurses
40 Lincoln Street
Winthrop, Massachusetts 02152

Appendix H


THE COMMONWEALTH OF MASSACHUSETTS
THE BOARD OF HIGHER EDUCATION
LOCATION OF PROFESSIONAL SCHOOLS OF NURSING IN THE COMMONWEALTH OUTSIDE THE BOSTON SMSA
● DIPLOMA SCHOOLS (43)
● A.D. PROGRAM (13)
◉ DEGREE PROGRAM (7)
September 1968
NOTE:
See separate map for Boston SMSA
NOTE: NORFOLK COUNTY INCLUDES BROOKLINE AND COHASSET.
SCALE IN MILES
0
10
20
30
40
VERMONT
NEW HAMPSHIRE
NEW YORK
CONNECTICUT
RHODE ISLAND
BOSTON SMSA
FRANKLIN
WORCESTER
MIDDLESEX
SUFFOLK
HAMPDEN
HAMPSHIRE
BERKSHIRE
BRISTOL
PLYMOUTH
BARNSTABLE
DUKES
NANTUCKET

Appendix I


THE BOARD OF HIGHER EDUCATION
LOCATION OF PROFESSIONAL SCHOOLS
OF NURSING IN THE BOSTON SMSA
NEW HAMPSHIRE
RHODE ISLAND
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SCALE IN MILES
N

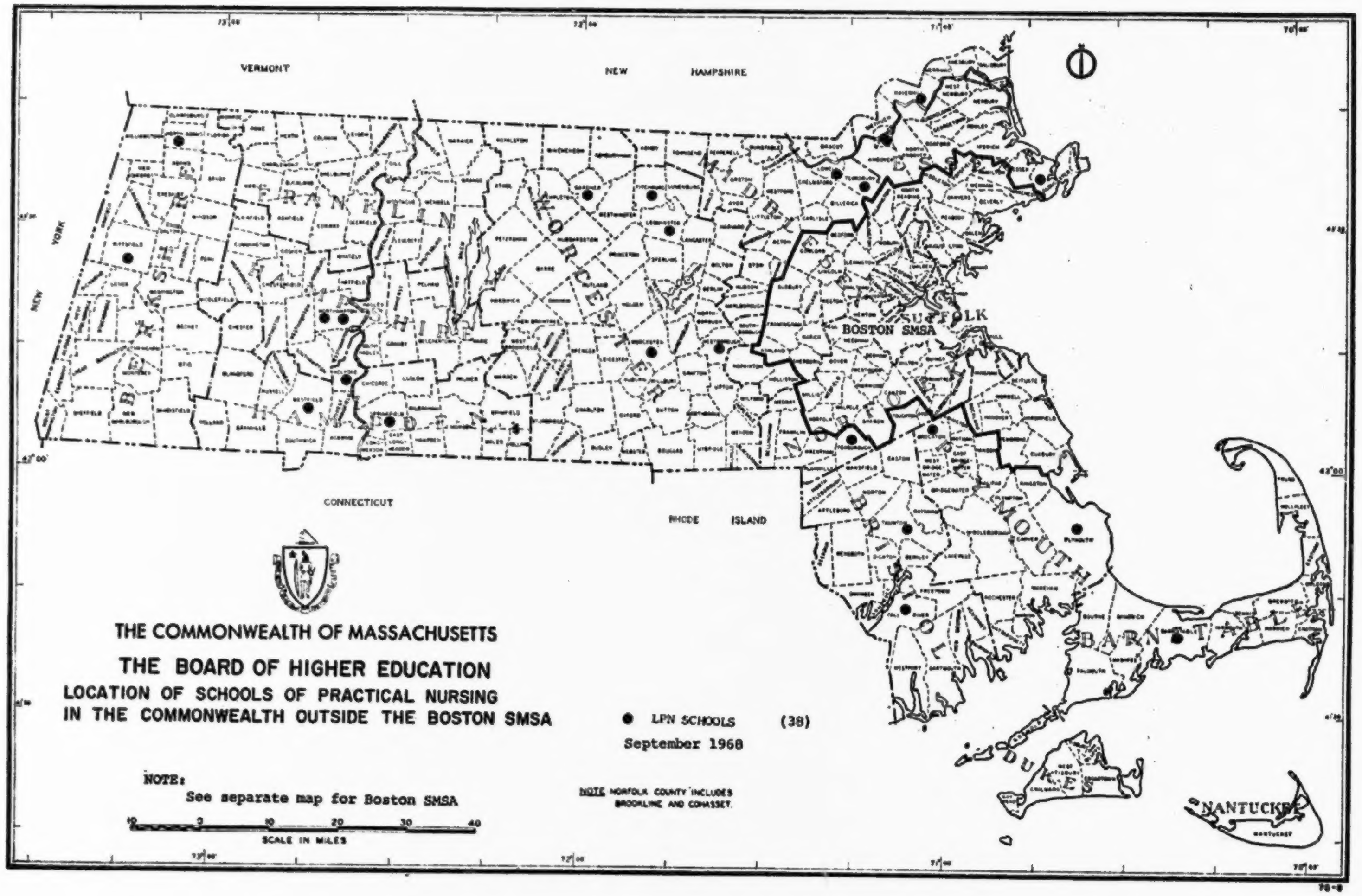
● DIPLOMA SCHOOLS (21)

⊕ A.D. PROGRAM (5)

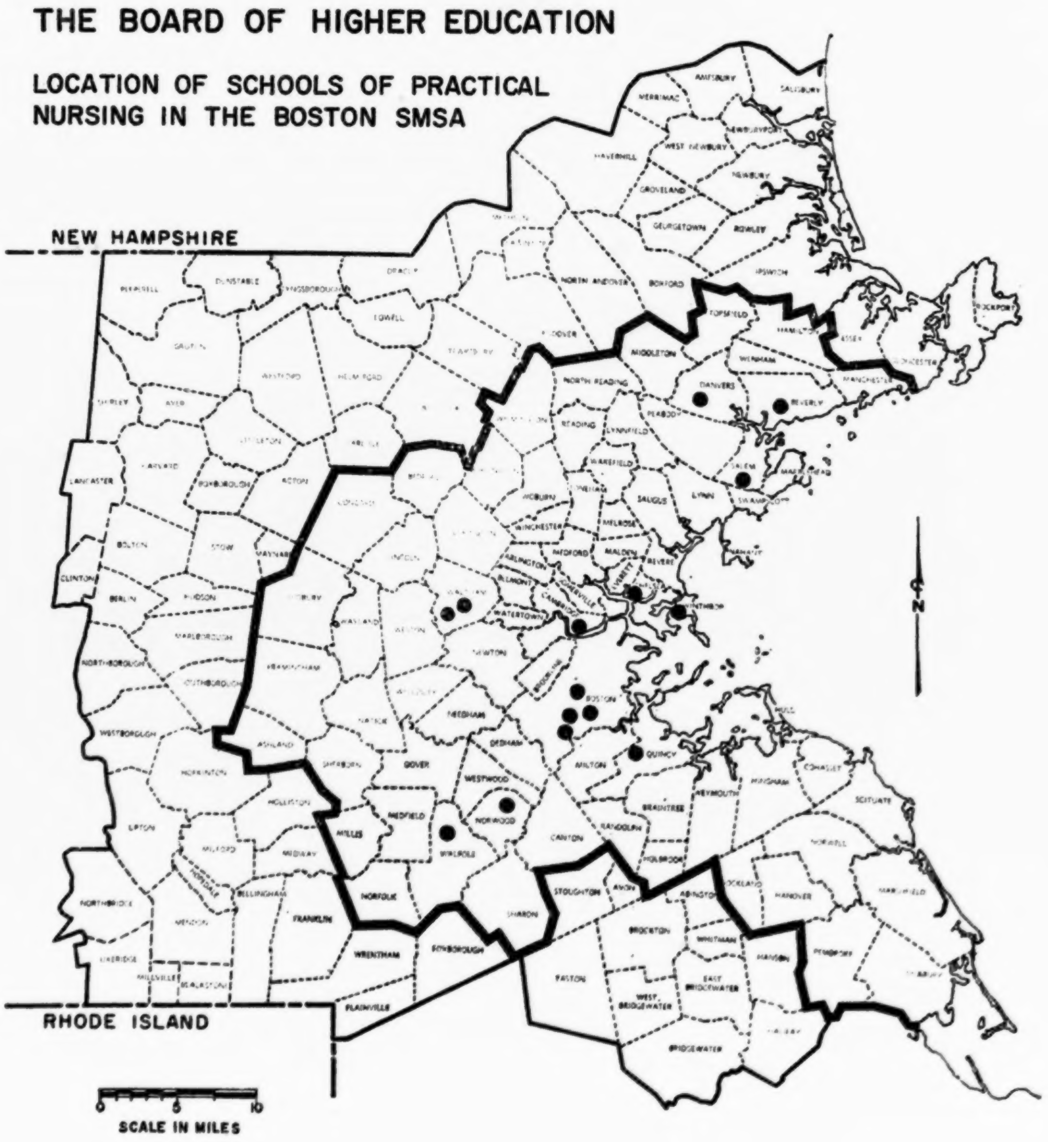
⊙ DEGREE PROGRAM (4)

September 1968

Appendix J


VERMONT
NEW HAMPSHIRE
NEW YORK
CONNECTICUT
RHODE ISLAND
BERKSHIRE
FRANKLIN
HAMPSHIRE
HAMPDEN
WORCESTER
MIDDLESEX
ESSEX
SUFFOLK
BOSTON SMSA
NORFOLK
PLYMOUTH
BRISTOL
BARNSTABLE
DUKES
NANTUCKET
THE COMMONWEALTH OF MASSACHUSETTS
THE BOARD OF HIGHER EDUCATION
LOCATION OF SCHOOLS OF PRACTICAL NURSING
IN THE COMMONWEALTH OUTSIDE THE BOSTON SMSA
● LPN SCHOOLS (38)
September 1968
NOTE:
See separate map for Boston SMSA
NOTE NORFOLK COUNTY INCLUDES
BROOKLINE AND COHASSET.
10 0 10 20 30 40
SCALE IN MILES

Appendix K


THE BOARD OF HIGHER EDUCATION
LOCATION OF SCHOOLS OF PRACTICAL NURSING IN THE BOSTON SMSA
NEW HAMPSHIRE
RHODE ISLAND
N
0
5
10
SCALE IN MILES
BOSTON
QUINCY
DANVERS
BEVERLY
SALEM
LYNN
NEWTON
NEEDHAM
DEDHAM
NORWOOD
WALPOLE
MILTON
CANTON
BRAINTREE
BROCKTON
FRANKLIN
WRENTHAM
FOXBOROUGH
SHARON
STOUGHTON
MEDFIELD
DOVER
WESTWOOD
NORFOLK
MILLIS
MIDDLETON
TOPSFIELD

● LPN SCHOOLS (15)
September 1968